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EIGHTH ANNUAL REVIEW

MALCOLM, STUART & CO., INC.
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PUBLIC UTILITIES

Two Parts

INVESTMENT NEWS

Part II

A Weekly Financial Journal Devoted to Investments, Commerce and Business

108 South La Salle Street

CHICAGO, ILL.

December 30, 1922

Cities Service Company

Cumulative Preferred Stock

Present Yield 8.45%

DIVIDENDS PAYABLE MONTHLY

Net to stock for the year ending October 31, 1922, amounted to \$11,865,731; Preferred dividends were earned 2.41 times during this period.

Cities Service Company

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Under

Unified Management

More than 100 subsidiaries embracing a large, successful Public Utility System, which includes gas, electric light and power, heat, water and street railway companies, combined with extensive, diversified natural gas and oil producing, transporting, storing, refining and marketing properties.

Send for Circular PS-102

SECURITIES DEPARTMENT

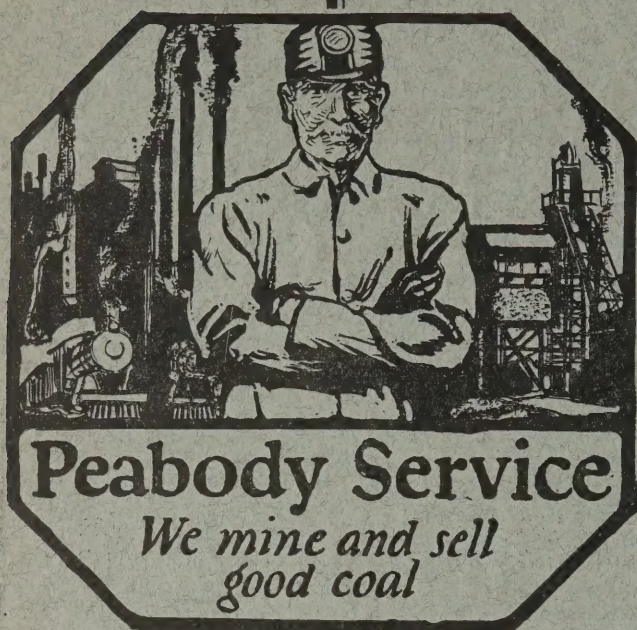
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PRINCIPAL CITIES





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Since 1883 we have been supplying buyers of carload coal.

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BRANCHES
PINEVILLE, KY.
CINCINNATI, OHIO
OMAHA, NEB.

DEADWOOD, S. D.
SPOKANE, WASH.
KLEENBURN, WYO.

44 Mines _____ Annual Capacity 23,000,000 Tons

Long Distance Mile Posts

THE world's telephone progress has been marked by periodical advances in the Bell Telephone System's Long Distance transmission.

Forty-one years ago the first Long Distance telephone line between Boston and Providence, 45 miles long, was built. Two years later the New York-Boston line, 235 miles long, was completed. In 1892 the New York-Chicago line was opened and in 1911 the New York-Denver line, 2,100 miles, was finished. In 1915 another 1,300 miles was added and San Francisco was brought into telephone communication with the east. In 1920 the Key West-Havana cable extended the long distance facilities of the Bell System to the Island of Cuba.

These extensions of range have been accompanied by improved transmission and greater operating efficiency.

No other nation has the long range of telephone speech and the quality of service that we in America enjoy.



Get acquainted with the money and time saving features of our "station-to-station" service as explained in the current issue of the Alphabetical Telephone Directory.

ILLINOIS BELL TELEPHONE COMPANY

Why Public Utilities Attract Careful Investors

The sound habit of buying public utility securities for safety combined with good yield has become almost universal.

Providing the public with light, heat, power and transportation, public utilities are among the fundamental necessities of modern life, ranking next in importance perhaps to food, shelter and clothing.

Stone & Webster experience in public utilities began more than thirty years ago with the work of establishing some of the earliest electric light and power companies on a successful basis, and we are now the largest organization financing, constructing and managing independently operated public utilities.

If you will advise us as to the character of your requirements we will be glad to make specific recommendations based on our wide knowledge and experience in public utilities investing.

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Incorporated

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First National Bank Building
CHICAGO

Boston
147 Milk St.

IN the buying and selling of high-grade investment bonds and farm mortgages, The Merchants Loan and Trust Company Bank of Chicago pursues the same conservative policy which has characterized its operations during more than half a century. To the careful investor, who looks primarily to safety of principal, the offerings of this Bank prove especially attractive.

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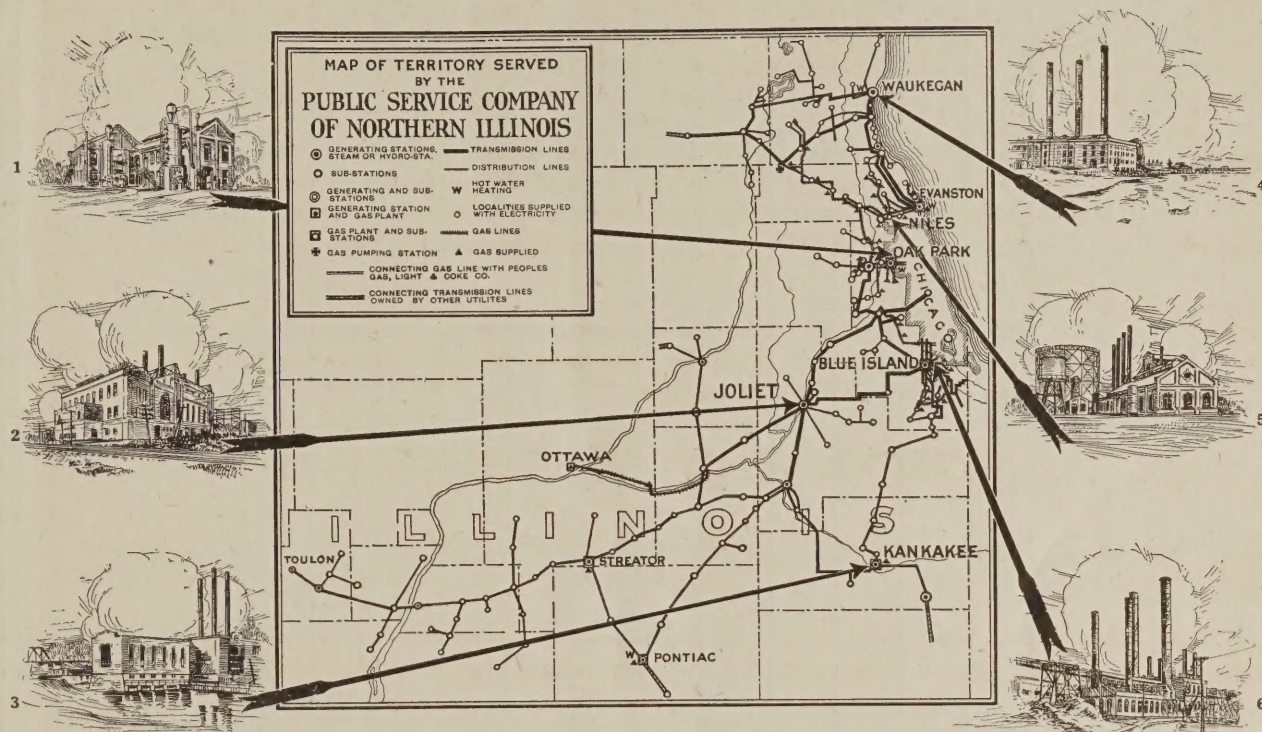
Capital and Surplus
\$15,000,000

*"Identified with Chicago's
Progress Since 1857"*

112 W. Adams Street
Chicago

Great Plants Supplying Great Demands in a Rapidly Growing Territory

CHICAGO—destined to be the greatest city in the United States—is bounded on the East by Lake Michigan, on the North, South and West by the electric transmission lines and gas mains of the Public Service Company of Northern Illinois.



1 Oak Park Gas Station

More than 3,000,000,000 cubic feet of gas are produced annually by the Company's gas plants at Oak Park, Niles, Cicero, Blue Island, Kankakee, Ottawa, Streator and Pontiac.

2 Joliet Electric Generating Station

The Company's great plants at Joliet, Blue Island and Waukegan are among the greatest electric plants in the country. More than 350,000,000 kilowatt hours of electric energy are generated annually.

3 Kankakee Hydro-Electric Station

4 Waukegan Electric Generating Station

Diversity of great industries marks the industrial importance of the territory served by the Public Service Company. Practically every important line of manufacturing is represented in this territory because of unusual advantages.

5 Niles Gas Plant

Fine residential suburbs, rich agricultural fields, one of the world's greatest dairy sections, a large sand and gravel industry contribute to the great stability and constant progress of this territory.

6 Blue Island Gas and Electric Plant

Public Service Company of Northern Illinois

Cities and towns in 15 counties embracing over 5,800 square miles of the State of Illinois containing a population of about 1,250,000 are served by this Company. This territory is rich and productive—embracing the great industrial and residential district surrounding Chicago, from the Indiana to the Wisconsin state line and stretching down state through the rich agricultural and dairy regions.

Every move of an industrial plant to Chicago's outskirts and suburbs, or of a citizen to territory adjacent to the city, means added electric and gas business for this Company. There is no region of like size in the United States which is growing faster or is more prosperous than the territory served by the Public Service Company of Northern Illinois.

The earnings of the Company have shown a steady and substantial increase during the eleven years of its corporate existence.

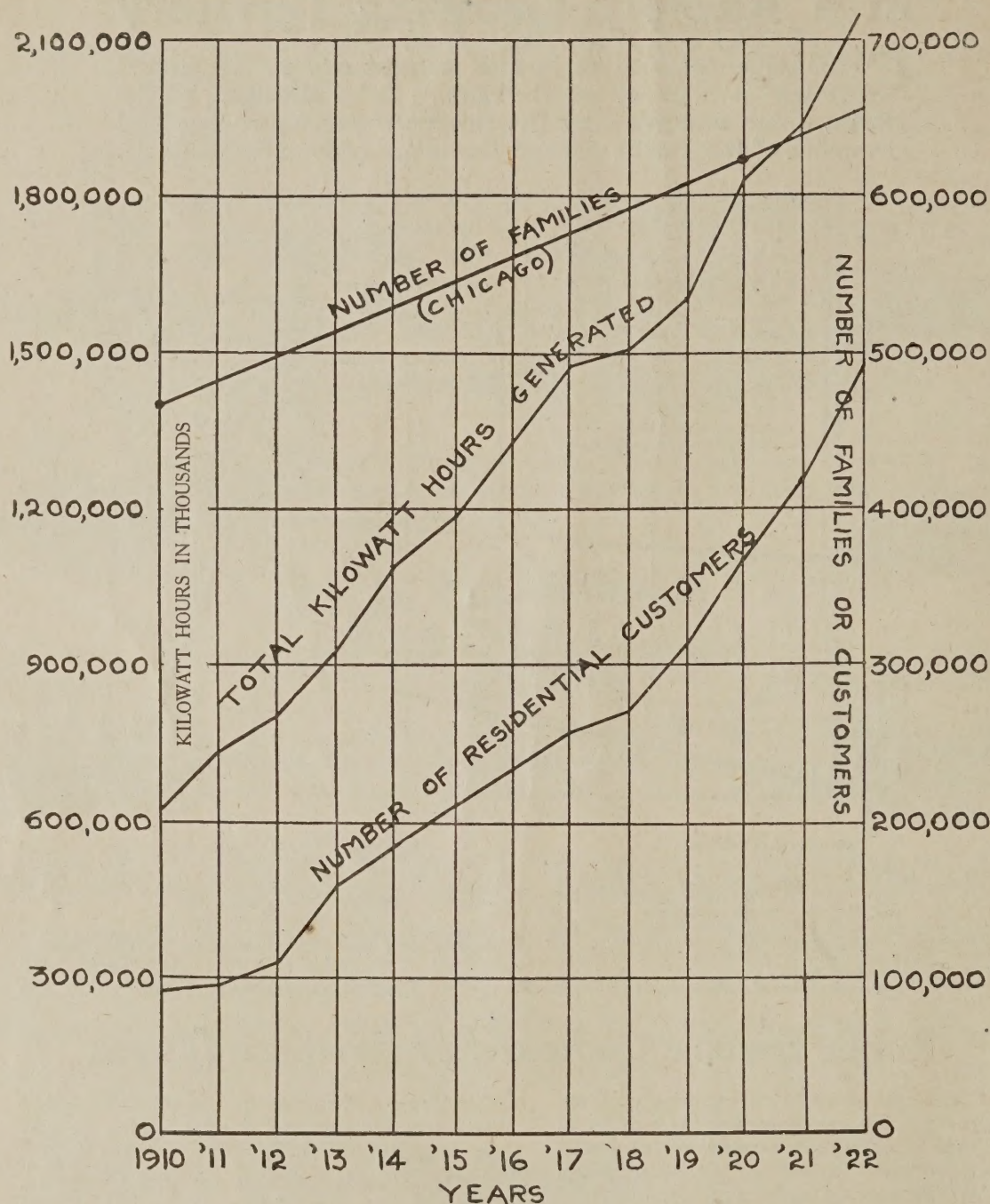
On November 1, 1922, the Company paid its 44th consecutive dividend on the Preferred and Common Stock.

This Company is owned by over 16,000 persons, most of whom are consumers of the Company's products.

Public Service Company of Northern Illinois

72 West Adams Street, Chicago, Illinois

GROWTH OF EDISON SERVICE



THE above diagram shows that the number of residential customers is increasing much more rapidly than the number of families in Chicago.

Since 1910, the number of families has increased less than one-half while the number of residential customers has increased over four times. As the chart shows, there are still about 157,000 families in Chicago, who are not now being supplied by electricity.

In addition, commercial and large industrial customers are constantly being added, and together with the increased consumption of the existing customers, the present rapid increase in output will continue.

Commonwealth Edison Company

72 West Adams St.

EDISON BUILDING

Chicago, Illinois

UNITED LIGHT AND RAILWAYS COMPANY

United



Service

This company controls the Operating and Financial Management of Seventeen Operating Companies, furnishing Public Utility Services in Ninety-one Communities in the Middle Western States of Illinois, Indiana, Iowa, Michigan and Tennessee.

The population of these communities in 1910 was 468,828. It had increased to 611,265 at the census of 1920, a grand average increase of better than 30 per cent.

This increase represents the healthy, substantial, permanent growth of our communities. In no one of the cities served has there been a "boom". On the contrary, when the boom towns suffered a loss of population in the slack years, the business of our federated operating companies continued to increase at a normal, healthy rate.

As a consequence, the history of net earnings of United Light and Railways Company shows a continued upward trend, throughout even the years following the war.

The prudent investor will be interested in the sound values to be found in this company's security issues.

The 6% First Preferred Stock has paid cash dividends regularly each quarter year for the past twelve years.

All reputable bankers and brokers are supplied with full details in respect to this company's earnings and financial position.

Stocks are listed on the Chicago Stock Exchange.

MIDDLE WEST UTILITIES COMPANY

72 West Adams Street

CHICAGO, ILLINOIS

Subsidiary Companies	State	No. of Communities Served	Classes of Service						Estimated Population Served
			Electric	Gas	Water	Ice	Heat	Railway	
Central Illinois Public Service Company	Illinois	188	187	8	12	12	5	7	356,300
Illinois Northern Utilities Company	Illinois	78	76	9			1	3	136,400
Sterling, Dixon & Eastern Electric Ry. Company	Illinois	4	4						1,600
McHenry County Light & Power Company	Indiana	39	38	12	8		1	5	163,000
Interstate Public Service Company	Indiana								
Indianapolis & Louisville Traction Ry. Company	Indiana	3	3						2,500
Southern Indiana Power Company	Indiana	8	8						15,000
Hydro-Electric Light & Power Company	Indiana	13	13						16,800
Hawks Electric Company	Indiana	2	2						9,500
Winona Electric Light & Water Company	Indiana	38	38	1	2		1		85,600
Kentucky Utilities Company	Kentucky	5	5	1	6	8		1	13,900
Kentucky Light & Power Company	Kentucky	1			1	1			19,600
Citizens Gas Light Company	Tennessee	1		1					6,500
Electric Transmission Company of Virginia	Virginia	5	5						119,500
American Public Service Company	Okla. & Texas	46	45	2		23		2	128,500
Public Service Company of Oklahoma	Oklahoma	14	11			8			13,900
Chickasha Gas & Electric Company	Oklahoma	3	3	1					25,000
Missouri Gas & Electric Service Company	Missouri	13	12	2		1			30,700
Central Power Company	Nebraska	19	19	1					11,000
Nebraska City Utilities Company	Nebraska	8	8	1	1				13,600
Southern Wisconsin Electric Company	Wisconsin	10	10						59,200
North West Utilities Company	Wisconsin	40	40	3	1		2		105,500
Eastern Wisconsin Electric Company	Wisconsin	5	4	1				3	63,000
Michigan Gas & Electric Company	Michigan	22	19	6				1	50,000
Lake Superior District Power Company	Mich. & Wis.	19	19	1	1			6	121,200
Twin State Gas & Electric Company	New England	50	50	3				1	
Berwick & Salmon Falls Electric Company									
Total		633	619	52	32	53	10	29	1,567,800



BONDS of MERIT

INVESTMENT securities offered by this institution have stood the test for safety of principal and regularity of interest.

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Bonds of
Public Utility Companies

"L" Service Is Fast, Safe, Reliable and Economical

Service on the "L" is dependable all seasons of the year. Being up on an elevated structure, trains are not subject to street traffic delays. The average speed on all "L" trains, local and express, is over 16 miles an hour. Whether the traveler wishes to go a long or a short distance, he will save time by using the "L."

Under the new schedule of fares, travel on the "L" is most economical. For \$1.25 the passenger can procure an Unlimited Ride, Transferable Weekly Pass, which entitles him to ride all over the system, south of Howard Street, as often as he may wish within the week. The Weekly Pass may be given to any person, other than the purchaser, when the latter is not using it, the only limitation being that it cannot be used by more than one person on a trip.

Children's rates on the "L" are lower than any other transportation lines. Children under 7 years of age, when accompanied by an adult, are carried free, children under 12 years ride for 3 cents, while school children under 17 years of age are given a 5-cent fare through the purchase of 50-ride coupon books for \$2.50.

Employees of the "L" are always courteous and obliging to passengers and careful of their safety. The record of the "L" for safety is unequalled by any local transportation company in the country.

Chicago Elevated Railroads

HODENPYL, HARDY & CO.

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(Carries both standard and tourist sleeping car passengers)

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☐ Gas users pay no freight, demurrage, switching or unloading charges. They pay no insurance on fuel stocks.

☐ Figure in the overhead and incidental costs of other fuels and you will know

If it's done with Heat

**You can do
it Better
with GAS**

☐ Our engineers will help you solve your factory fuel problem without charge.

☐ Write for the facts, or better still, call Wabash 6000.

Industrial Gas Department

**THE PEOPLES GAS LIGHT &
COKE COMPANY—CHICAGO**

23,528 Chicago Industries Today Using Gas

ANALYZE YOUR INVESTMENTS



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and our Reference Library
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BOND DEPARTMENT

Central 7040

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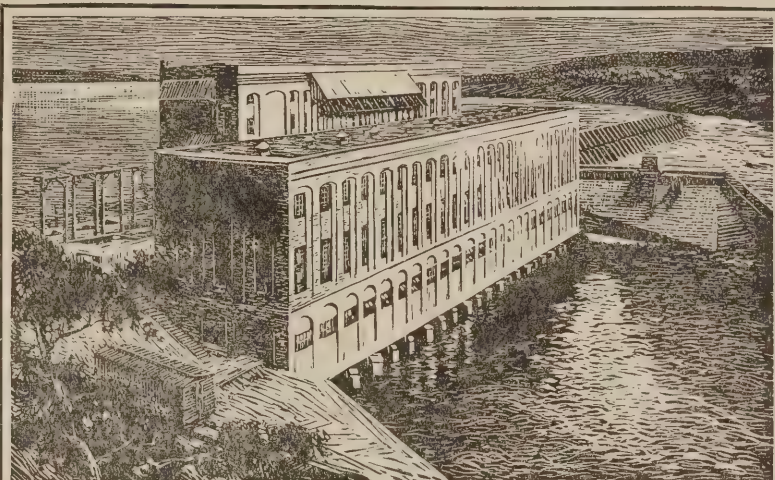
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The Hydro Electric Power Plant, Prairie du Sac, Wisconsin, which is interconnected by means of transmission lines with the Wisconsin Power, Light & Heat Co.



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Heart of Wisconsin*

The Wisconsin Power, Light & Heat Co. serves, without competition, prosperous communities located in some of the best agricultural and dairying regions in the State of Wisconsin.

Wisconsin Power, Light & Heat Co.

**Preferred
7%
Stock**

The Company's business has shown a rapid growth both in income and number of customers served. Approximately 85 per cent of the Company's operating revenue is derived from the sale of electrical energy and 15 per cent of the revenue is obtained from the sale of water, gas and heat.

Wisconsin Power, Light & Heat Co. Preferred 7% Stock is recommended as a well secured investment having the following features:

It is the Preferred Stock of a widely known, highly developed and soundly managed Public Utility, supplying an excellent territory with modern necessities.

It is exempt from all taxation in Wisconsin, and the income therefrom is not subject to the normal Federal Income Tax.

Dividends are cumulative and paid quarterly.

Shares may be purchased either for cash, or on savings plan basis at \$100 per share, to yield 7%.

UTILITY SECURITIES COMPANY

72 West Adams Street

Phone Randolph 2944

CHICAGO, ILLINOIS

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Investment Department
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Company
Public Service Company
of Northern Illinois
Middle West Utilities
Company

MAIL THIS COUPON TODAY FOR FULL PARTICULARS

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Street _____
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(The Road of Service)

Steady increase in traffic on the NORTH SHORE LINE—both passenger and merchandise—proves the popularity of the service being given travelers and shippers.

Through the purchase of new equipment in the shape of Merchandise Despatch cars, which are now in service, and new passenger, dining and observation coaches, which are nearly ready for delivery, this high-speed electric railroad will be in a position to render its patrons even better service in the coming year.

The NORTH SHORE LINE runs 46 Limited trains daily between Chicago and Milwaukee. Six of these trains make no stops between Evanston and Kenosha, and reduce the running time from the heart of Chicago to the heart of Milwaukee to 2 hours, 10 minutes. All of these extra fast trains carry dining cars.

Receiving stations for merchandise, two located on the South Side at Forty-first and Union and at Sixty-third and Calumet; two in the Loop district at Austin and Franklin and at Austin and Wells, and one on the North Side at Montrose near Broadway, make it especially convenient for shippers, saving them the expense of long hauls by truck and delays in making deliveries. Merchandise is delivered at any point on the road within 24 hours of the time shipments are received.

Chicago North Shore & Milwaukee Railroad

Traffic Department
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issued by companies with long records of substantial earnings.

We extend the facilities of our organization to those desiring detailed information or reports on any of the companies with which we are identified.

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We Specialize in the Purchase and Distribution of

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Investors desiring information on specific electric light and power securities are invited to consult us without obligation.

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CHICAGO

Phone Randolph 2751

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Securities of Public Utility companies receive at all times careful consideration by us. A list of current offerings will be sent on application.

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CHICAGO

An Unusual Investment Opportunity

The 7% Cumulative Participating Preferred Stock of the United Light & Railways Company offers attractive possibilities.

Listed on the Chicago Stock Exchange, it is selling to yield about 7.80%.

May we send complete information?

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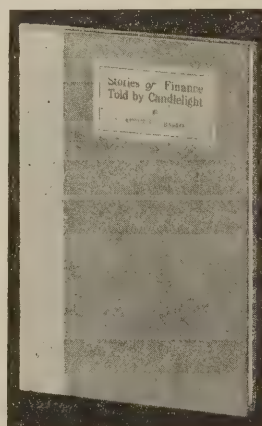
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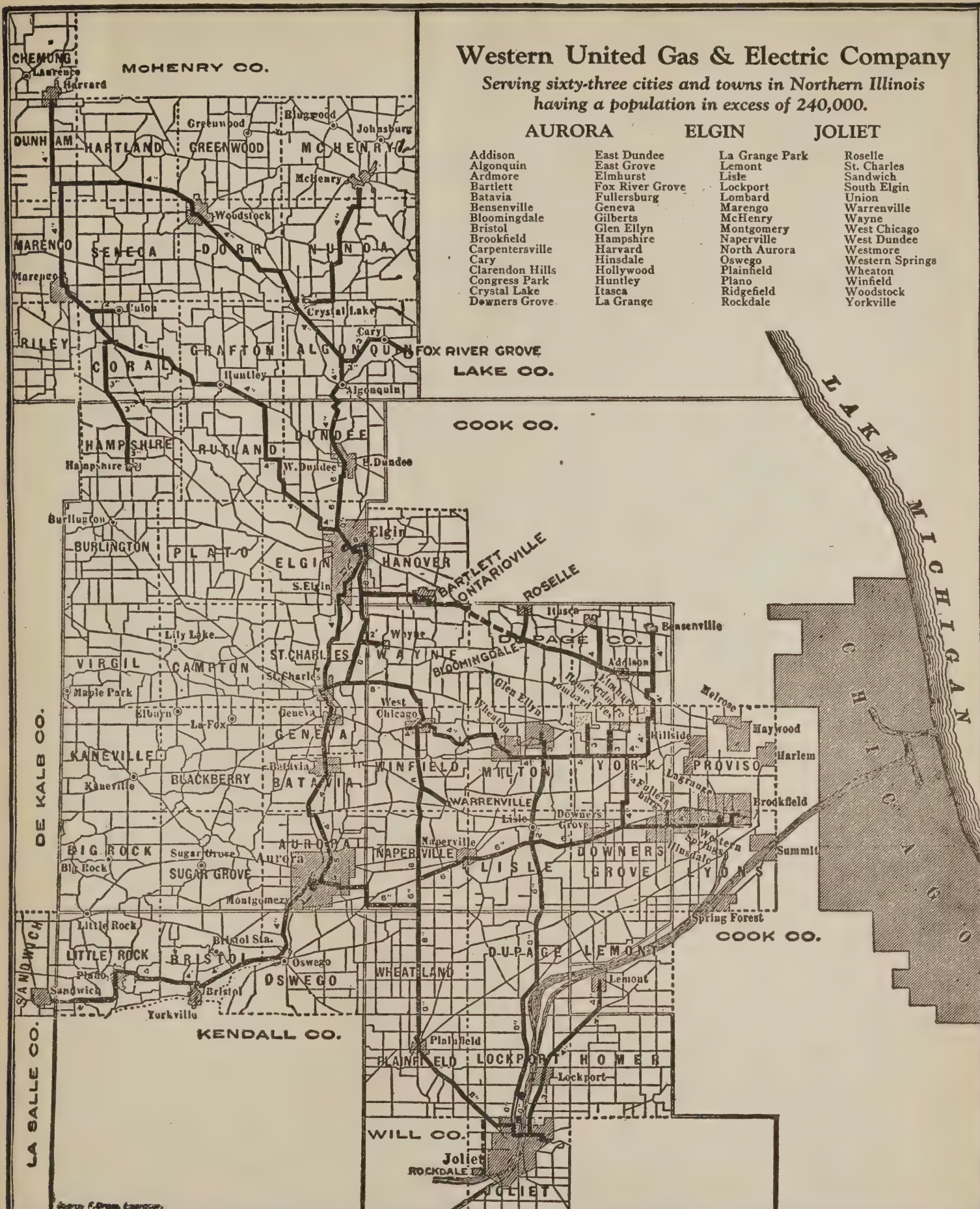
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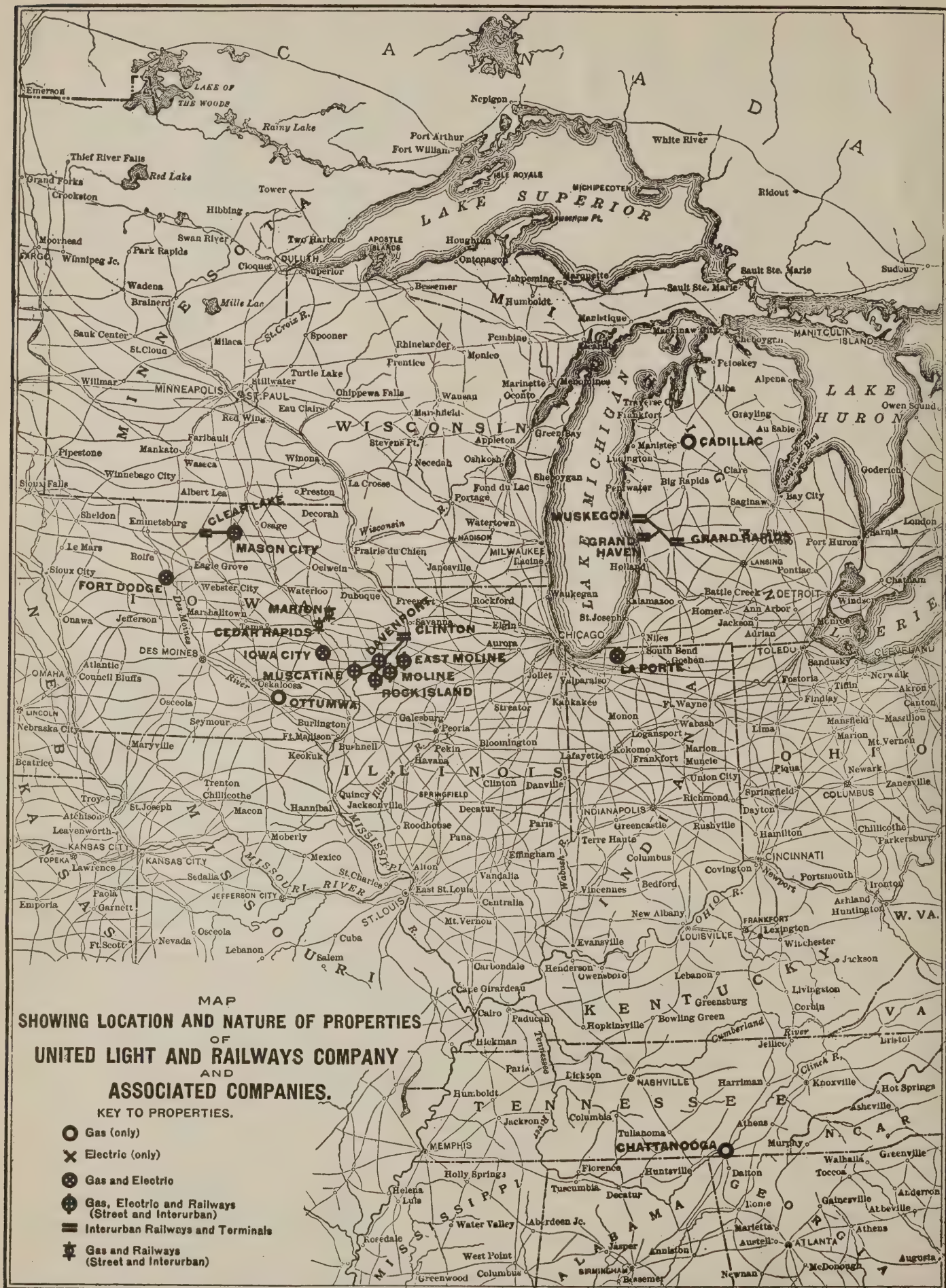
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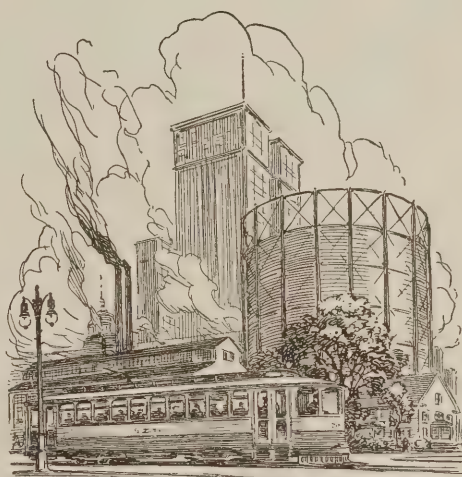


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PUBLIC UTILITY BONDS



Utilities Power & Light Corporation

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CHICAGO

Central Station Systems Constructed
Owners and Operators of Public Utilities

Investigations, Appraisals and Reports

Representative
Public Utility Companies

*for which bond or note issues have
 been underwritten by*

Halsey, Stuart & Co.

*either alone or jointly
 with associates*

American Light & Traction Company
 American Public Service Company
 Arkansas Water Company
 Ashland Light, Power & Street Railway Company
 Binghamton Light, Heat & Power Company
 Central Illinois Power Company
 Central Illinois Public Service Company
 Central Indiana Power Company
 Central Power Company [Neb.]
 Chicago, North Shore & Milwaukee Railroad
 Cohoes Power & Light Corporation
 Commonwealth Edison Company
 Denver Gas & Electric Light Company
 Detroit City Gas Company
 E. St. Louis & Interurban & Water Company
 Eastern Texas Electric Company
 Empire District Electric Company
 Houston Lighting & Power Company
 Illinois Northern Utilities Company
 Ironwood & Bessemer Railway & Light Company
 Kansas City Power & Light Company
 Kentucky Utilities Company
 Laclede Gas Light Company [St. Louis]
 Metropolitan Edison Company [Pennsylvania]
 Middle States Water Works Company
 Middle West Utilities Company
 Mobile Gas Company
 New Jersey Power & Light Company
 Northern Indiana Gas & Electric Company
 Northwestern Elevated Railroad [Chicago]
 Ohio and Northern Gas Company
 Ohio Public Service Company
 Pacific Gas & Electric Company
 Pennsylvania Power & Light Company
 Peoria Railway Company
 Portland Railway, Light & Power Company
 Public Service Company of Northern Illinois
 San Antonio Public Service Company
 San Joaquin Light & Power Corporation
 Seattle Lighting Company
 Sioux City Gas and Electric Company
 South Side Elevated Railroad Company [Chgo]
 Southwestern Bell Telephone Company
 Southwestern Power & Light Company
 Springfield Railway Company
 St. Paul Gas Light Company
 The Tri-City Railway & Light Company
 United Light & Railways Company
 Vermont Hydro-Electric Corporation
 Western United Gas & Electric Company
 West Penn Power Company
 Wisconsin-Minnesota Light & Power Company
 Wisconsin Power, Light & Heat Company
 Wisconsin Public Service Corporation
 Wisconsin Railway, Light & Power Company
 Wisconsin River Power Company



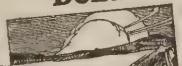
A Nation-Wide List of Public Utility Bonds

THE above map shows how extensively Halsey, Stuart & Co. have been identified with the underwriting and distributing of bonds of important, well managed, public utility companies throughout the country.

In times of prosperity or depression, there is always a dependable market for transportation, gas, light, power and water — essential services which public utilities sell both to cities and rural communities, usually without competition and on practically a cash basis. Earnings are steady and assured by the very necessity of the service rendered.

We shall be glad to send you descriptions of the available bonds of any of the companies listed in the column at the left, or other public utility bond offerings— with our pamphlet, "Ten Tests of a Sound Public Utility Bond."

**10
 TESTS
 of a Sound
 Public Utility
 Bond**



HALSEY, STUART & CO.

Please send me your current list of Public Utility Bond offerings and pamphlet, "Ten Tests of a Sound Public Utility Bond" FP-29

Name.....

Street.....

City.....

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PHILADELPHIA
 Land Title Building
 MINNEAPOLIS
 Metropolitan Bank Building

Some of the Leading Features

IN THE

Eighth Annual Review of Public Utilities

Published as a Supplement to Investment News

December 30, 1922

INDEX

	PAGE
Public Utilities, A Prospect and Retrospect.....	A. C. BABIZE..... 25
Illinois Investments in Utilities.....	H. M. LYTLE..... 26
Utilities of Missouri in 1922.....	J. B. SHERIDAN..... 26
Pressing Problems Connected with Regulation.....	CARL D. JACKSON..... 28
Utility Service in Nebraska.....	HORACE M. DAVIS..... 32
✓ Customer Ownership in Wolverine State.....	ALFRED FISCHER..... 32
The Public Utility and the City.....	CHAS. A. BOOKWALTER.. 33
Growth of Oklahoma Utilities.....	O. D. HALL..... 34
Ohio Public Utilities in 1922.....	BENJAMIN E. LING..... 36
Investment and Speculation in New York City Traction Bonds..	WM. CARNEGIE EWEN... 38
How Traffic Transportation can be Helped.....	HAROLD ALMERT..... 40
Utility Securities from Standpoint of Investor.....	EDWARD B. LEE..... 42
Safeguarding Investments.....	A. J. BEMIS..... 46
Relative Security in Investments.....	RUSSELL ROBB..... 48
Growth of Investment in City Water Works.....	CHAS. B. BURDICK..... 50
The Taxi-cab and the Jitney.....	HENRY L. DOHERTY... 50
Illinois Bell Keeps Abreast with Chicago's Growth.....	W. R. ABBOTT..... 51
Avoiding Financial Problems.....	F. J. KNOEPEL, C. P. A. 52
Management Control of Utility Enterprises.....	LOUIS F. MUSIL..... 53
Why Municipal Ownership is a Failure.....	PAUL P. HAYNES..... 55
Continuous Inventory of Fixed Capital.....	H. C. DAVIDSON..... 58
Outlook for Electric Public Utilities.....	FRANK W. SMITH..... 60
Reports and Statistics of Public Utility Corporations in the Middle and Far West.....	67 to 98



BRIEF REVIEW OF FINANCIAL SITUATION OF
THE LEADING UTILITY CORPORATIONS IN
CHICAGO AND THE MIDDLE WEST, INCLUDING
MAPS OF UNITED LIGHT & RAILWAYS CO.,
CENTRAL ILLINOIS, MISSISSIPPI RIVER
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CHICAGO, DECEMBER 30, 1922

THE PUBLIC UTILITY FIELD; PROSPECT AND RETROSPECT

AT no time probably in the past and certainly not since 1914, have the public utilities of the United States been in better shape, better condition physically and financially, than they are today. The year 1922 has been a year of progress all around. It has been, in many instances, a year of considerable expansion for these service renderers of the communities. It has been a year of satisfactory returns; of considerable larger earnings, and, in part, of greater economies. As a result, the securities of these corporations have become the popular investment, not only for the large capitalists, but what is much more important, for the smaller saver and chiefly for the patron of these corporations who thus become part owners in these enterprises.

This means that customer ownership has made tremendous strides; it means, further, that the securities of public utility corporations are more widely disseminated among consumers of electric light and power than ever before; and it means that much greater harmony exists between the operators of these utility properties and their patrons, the consumers in the communities of the land.

Whether it be in power expansion or in electric transportation, the service now rendered—a service uniformly of the highest grade—is both eminently satisfactory to the client and reasonably profitable to the corporations. Elsewhere in this issue, articles will be found by experts analyzing and explaining in detail what these corporations have been performing during the year; the character of service which they are rendering, a service absolutely indispensable for an up-to-date community. Whether it be in the telephone field; in gas; in electric light and power; in water, or in heat, there has been notable expansion which required considerable additional funds. The important thing is that, in most cases, the necessary funds were obtained from clients and customers. This is constructive advancement of a high degree; it is a pledge of cooperation that must bear fruit of the highest value in the future.

We desire to call specific attention not only of present owners of public utility securities, but also of prospective investors, and of actual customers, to the excellent articles contributed by William Carnegie Ewen; by Harold Almert; by E. B. Lee and by other experts in their own particular branch of the business. Mr. Ewen deals, particularly, with the securities of the traction lines of New York City, and, as an authority upon that subject, clearly points out the intrinsic value based upon actual performances of the corporations in the securities which he analyzes. For Chicago, Mr. Almert demonstrates in plain, simple and understandable language how the traction situation in this city can be relieved, during the congested periods of traffic, by adopting what he terms "the staggering system," a system which aims

to distribute as broadly as possible, under existing conditions, the enormous traffic that has to be handled in the loop district when shoppers and wage earners either pour into, or seek an egress from the loop, when the day's work is done. It would be impossible for us, in the brief space available, to consider in detail the many valuable and helpful suggestions contained in the many articles contributed by our friends. They have performed a valuable service and we feel deeply indebted for this interest shown in our annual publication. We want to urge, however, every one into whose hands this issue comes whether subscribers or readers, to consider these articles, digest them, reflect and profit therefrom.

Extensive as this industry has become in the last few years, there is no doubt that the future still holds in reserve further wonderful revelation of its usefulness. We could no more do away today with electric tramways than we could do away with the telephone, the telegraph or the electric light. Each and all have become an essential factor in our every day life. Each and every one is indispensable for the proper conduct of business affairs, and at the speed at which the progress of the country is going there is no one living who can say to what extent these facilities for doing modern business will work for the greater prosperity of the country. That the communities are appreciating that fact is clearly proven by the eagerness with which the stocks and bonds of well established public utility securities are being subscribed for by patrons, the consumers of the services rendered. The public utility industry is second to none in the United States. From the standpoint of capital invested, it stands at the top. To the men who operate these utilities, hard workers, the people owe a debt of gratitude. To the broad minded men also, members of the utility commissions who are striving to give an equitable recognition of the rights of the operators on the one hand and the protection of the public on the other, unequalled thanks also are due. The fetish of municipal ownership is rapidly passing; for it is being recognized that the best and the most satisfactory service that can be rendered by a public utility corporation is a service that can be rendered under conditions of monopolistic operation supervised by reasonable regulation.

As we visualize the situation, the brightest future awaits the public utilities of this country, and the investor, large or small, can hardly make a mistake by placing his funds in these enterprises. From the day this paper was founded, it has been a friend and an advocate of sound public utility expansion. It is more so today if that is possible. The public utility field is well nigh boundless; it must go on expanding until that day when practically every community in the land is served with power, light, heat, transportation and telephone. The year 1923 will bring that much nearer the realization of that situation. And in the small measure we can contribute we shall enthusiastically do so.

AUGUSTE C. BABIZE,
Editor.

A REVIEW OF PUBLIC UTILITIES OF THE MIDDLE WEST

**Illinois Investments in Utilities Exceeds
\$1,350,000,000**

By H. M. LYTLE

Secretary Illinois Committee on Public Utility Information

PROBABLY no year in public utility history has ever been as interesting as that of 1922. These high spots are prominent:

1—No class of securities held as high favor in investors' eyes.

2—Public approbation, understanding and cooperation was at high point.

3—In return for public approval and the investment situation, the utilities were able to project great building operations.

4—Demand for utility services of all classes was insatiable and exerted existing capacities of plants to the utmost, and this market continues.

5—In the face of industrial depression existing part of the year, the electric light and power, gas and telephone companies showed little recession (electric and telephone business showed gains), indicating again the stability of the industry and its ability to go ahead in the face of adverse general conditions.

Public understanding of the utility industry has been reflected in fairer attitude of regulatory authorities, in intelligent discussion of utility matters when they come before the public and in the tremendous investment in junior utility securities such as has given the industry the greatest group of owners of any industry of the state. It is doubtful if any business has gone to such great lengths, nor been so successful, as this industry in acquainting the people whom it serves (meaning in the utility industry, all of the people) with the fundamentals of the business. Nor is it probable that any industry can claim as strenuous efforts at educating those in the business itself to the business and the obligations owing to the public.

At the close of 1922 the utility industry in Illinois represented an investment of more than \$1,350,000,000. It had more than 500,000 securities owners. It held first rank in the electricity and gas industry. Its telephone system could not be equalled by any other state. It had half a billion dollars invested in electric railways. These are not braggadocia figures, but mere statements of fact.

Chicago could very easily prove its claim to be the central securities market as respects utility securities. No other city is in its class as respects aggregate amount of capital invested in utilities controlled by its residents.

The tremendous electricity development that has been noted in the Middle West continued during 1922. Illinois has a super-power electricity system second to none in the nation. It has what the eastern seaboard has been discussing for the last two years. Today Illinois is webbed together by 6,500 miles of high tension transmission lines having a voltage of 6,600 volts and up to 66,000 volts. Branching off from these great power trunk lines are thousands of miles of laterals linking up communities. Building operations started during 1922 insured development on even a greater scale in 1923.

The gas industry of the state took on renewed vigor during the year. Wide use of manufactured gas in industrial processes and for heat was noted and added largely to sales. This phase of the gas business is merely in its inception. It emphasizes, however, the contention of utility men that the electricity and gas fields are sharply divided; electricity for light and power and gas for heat.

The electric railway industry, hard hit by the war and fare agitation, was considerably revived during the year. Communities came to a closer realization of what loss of service might mean and built upon the friendlier relationships, finances of the railways became somewhat brighter. Electric railway men believe that the war's effects will be

overcome and that the electric transportation business is headed for distinctly brighter days, inasmuch as it has been proven that there is no substitute in sight at this time.

The year 1923 promises to be the busiest in public utility history. With a vast amount of new business offered and the favorable financial situation, the utilities are planning construction operations far beyond those of any previous years. It is probable that the greater part of the financing in connection with this will be in the form of junior securities, both because of the favoritism of the general public for this type of investment and also because of the partnership relation it brings about.

How Utilities of Missouri Fared in 1922

By J. B. SHERIDAN

Manager Missouri Committee on Public Utility Information

THE coal miners and railroad shopmen's strike cost the public utilities of Missouri from April 1 to September 1, 1922, approximately \$725,000. The best estimates that can be made indicate that the total cost of these strikes to the utilities within the state for the year April 1, 1922, to April 1, 1923, will be \$1,000,000. As the grand total of the net return for all the utilities in Missouri, barring steam railroads and telegraphs, is about \$4,500,000 per annum, it will be seen that the coal miners and railroad shopmen's strikes have cost the utilities of Missouri approximately one-fourth of their entire net annual income for the year April 1, 1922-April 1, 1923.

This has been a severe blow to the utilities of Missouri. It would be a severe blow to any regulated industry which is permitted, at best, to earn not more than 7½ per cent on value of actual property "used and usable" in giving service; to an industry which has sustained an increase in taxation of 102.57 in 1921 over 1914, and, of course, to an industry which cannot under regulation know a "fat" year.

This loss of a million dollars coming just at the time when the Missouri utilities were beginning to make recovery from the losses sustained from 1915 to 1917 has hurt the utilities very much.

Rate increases in Missouri from 1917 to 1920 were very moderate. An examination of 132 representative privately owned plants showed an increase in rates in 1921 over 1914 of 12.9 per cent. This is view of the fact that operating expenses, on the whole, have increased 100 per cent, and during 1918-1919 very much more than 100 per cent. Of 132 privately-owned plants surveyed 61 per cent of the total had an increase of 24.5 per cent; 25 per cent of the total had no increase at all and 14 per cent had decreases of 13.1 per cent.

This shows that so far as the electric industry in Missouri is concerned increased rates have been practically negligible.

Notwithstanding severe losses in 1916 and 1917 and with a record of breaking about even during 1919-20-21, the electric properties in the state report a condition that would be as favorable or as satisfactory as a public utility industry can be under inflated prices and rigorous regulation, were it not for the losses caused by coal miners and railroad shopmen's strikes.

The number of electric companies in Missouri has increased only 5 per cent in the past five years. That means one new electric company for each of these years. But the properties are being rapidly consolidated by the large companies. The acquisition of small properties by the larger companies in Missouri is so very notable that it is possible that within a period of ten years the actual number of companies will be largely reduced, while the industry will be, at the same time, greatly extended.

The principal consolidation of Missouri properties has occurred in the western part of the state, where the Kansas City Power & Light Co., the Public Service Commission

valuation of which was increased from \$7,500,000 in 1915 to \$29,500,000 in 1921, has been consolidating a great number of small plants in the Kansas City district of Missouri. The lines of the Kansas City Power & Light Co. now extend as far east as Glasgow, seventy miles from Kansas City. This very active and ably managed company has also succeeded in making very large extensions within their plant at Kansas City. This company has also conducted a very successful sale of securities to its customers within the past year. It may be said, too, that the securities of the company have shown a notable appreciation in value during the same period. The Kansas City district is growing very rapidly and the Kansas City Power & Light Co. is keeping in step with the district.

Another notable consolidation for extension of electric properties in Missouri is that being made by the North Missouri Power Company, starting with a central distributing station at Excelsior Springs which takes current from the Kansas City Power & Light Co. The Excelsior Springs Water, Gas & Electric Company began with six small properties in the immediate neighborhood of Excelsior Springs. This company has recently acquired extensive properties at Brookfield, 90 miles east, at Novinger, Adair county, and Edina, Knox county. With some small gaps to be bridged, the Excelsior Springs Water, Gas & Electric Company, now the North Missouri Power Company, has lines that reach from Kansas City to within 35 miles of the great hydro-electric development at Keokuk. So it is within possibility that by tying up its Brookfield properties with its Novinger properties, which are 60 miles north of Brookfield, running a short line from Novinger to its central station at Edina, and then running a line of about 30 miles from its Edina properties to Keokuk, the North Missouri Power Company may be able to send power from Keokuk to Kansas City.

A high line across the state along the Missouri river is also a possibility. The Kansas City Light & Power Company extends to Glasgow, 70 miles east. The lines of the Missouri Utilities extend 100 miles from Montgomery City to Hallsville in a direct air line to Glasgow. Between the eastern terminus of the Missouri Utility and the western terminus of the Union Electric Light & Power Company of St. Louis is a matter of only a few miles.

The West Missouri Power Company, central stations at Pleasant Hill, Clinton and Warrensburg, has added nineteen towns to its circuit since January 1, 1922. This company started with its Pleasant Hill plant in 1918 and on December 30, 1921, had thirty-one towns on its lines. Purchases of properties at Clinton and Warrensburg added nineteen towns to its property during 1922.

This, it will be seen, is a notable growth for a company which did not exist prior to 1918, and while begun in a town of 2,500 population as the Green Light & Power Company, L. K. Green, formerly of Concordia, Kan., president, J. F. Gobiet, secretary, the central station at Pleasant Hill was built in 1918 and is of very latest construction with most up-to-date mechanical equipment. A new central station is in course of erection at Clinton.

There has been very considerable hydro-electric development in the extreme southwest corner of Missouri. The Doherty organization has had for the past ten years a large hydro-electric installation at Powersite, near Forsyth in Taney county, about 20 miles from the Arkansas line. This hydro-electric installation has supplied power to the Empire District Electric Company's lines around Joplin in Jasper county and to the same companies' properties in Oklahoma and also supplied some hydro-electric power to the Springfield Gas & Electric Company of Springfield.

The Dohertys have recently secured a permit from the Federal Water Power Commission to erect another dam on White river, which will generate some 60,000 kilowatt hours a day, and which will act as a reservoir for hydro-electric installation at Forsyth.

A well-financed local company at Lebanon is putting a hydro-electric plant on the Niangua river in the famous Ha Ha Tonka Park district. This company already has

poles erected for its line to Lebanon and proposes to serve towns like Versailles, Tuscumbia, California and other small cities in central Missouri.

The Dixie Power Company, with headquarters in St. Louis, is proposing to build a dam at Cotter, Ark., which will also supply Missouri.

In spite of all the severities of regulation, the terrific losses of the war and the losses caused by the coal miners and railroad shopmen's strikes, the electric industry in Missouri is showing courage in the present and faith in the future. Hard hit as the companies have been, they are increasing their business, their valuations and promptly paying interest upon their securities. Had it not been for the losses caused by the strikes, the industry would have been, for the most part, in a very good condition in Missouri.

The telephone companies have managed to pay their way, although the increased telephone rates in Missouri have not been greater than 33 per cent over 1914. In fact, a survey of 58 telephone companies which represent approximately 75 per cent of the telephones in Missouri show that the rate of increase in 1921 over 1914 is but 23.3 per cent.

An examination of 28 of 32 plants which manufacture gas shows that conditions are tolerable, although the increase in rates in 1921 over 1914 has been no more than 36 per cent, which is, it must be admitted, extremely low for the gas business.

The great Laclede Gas Light Company of St. Louis, under the management of President C. L. Holman, had a good year and its securities appreciated some 40 per cent. The Kansas City Gas Company (natural gas) also showed reasonably satisfactory returns under the capable hand of Mr. J. W. Dana. Mr. Dana's financial administration has been notable. He took over the company in 1914, reorganized a \$10,000,000 property on a \$5,000,000 basis, advanced the rate, with the approval of customers from 25 to 85 cents per thousand feet, improved and extended service and advanced in a very short space of time to the very front rank in public utility operation, especially in finance and public relations. Mr. Dana's success in public relations, advancing rates 210 per cent in seven years with the good will of consumers, may be fairly assumed to be a wonderful effort in the way of establishing and maintaining good public relations in the face of an advancing gas rate.

Twenty-three of 25 privately-owned water companies in the state show upon examination that their rate of increase was but 23.4 per cent per thousand gallons in 1921 over 1914.

Insomuch as the general rate for water supply in Missouri permits the customer to obtain 8,880 pounds of water which amounts to two two-horse wagonloads delivered at the faucet in any part of his house in which there may be a faucet, for the cost of 25 cents, it will be seen that pure water is really cheaper than foul dirt in Missouri.

With a practically nominal increase in rate and with an enormous increase in operating expenses, it can be readily seen that the water plants in Missouri have not had any of the best of it in the past eight years. They are doing their best to pay their way, and for the most part succeeding. The water companies are not keen to make extensions under present conditions. Their great effort is devoted to giving good service to their customers, maintaining their properties in the best condition possible under the circumstances and in paying their ways and praying for a better day.

There are fourteen electric railway companies in Missouri, of which three, those in St. Louis, Kansas City and St. Joseph, may be considered as large companies. As a result of automobile competition and enormous increase in operating expenses, added to the fact that the rate of fare was not increased until 1917 in St. Louis and not until 1918 in Kansas City, the companies at Kansas City and St. Louis have been in the hands of receivers for some years. The rate of fare at Kansas City is 8 cents, with very considerable reductions for tickets bought in lots, etc. The rate of fare in St. Louis is 7 cents flat per adult.

Considering conditions, war losses and the financial depression of 1921, the electric railways in St. Louis, Kansas City and St. Joseph are beginning to show improvement.

The receiverships in both instances have been administered with the utmost competent and economy by men who have the entire confidence of the communities in which they live.

The Kansas City Railways recently obtained an extension of the 8-cent fare with the consent of the city officials and citizens of Kansas City, although in times past the Kansas City Railways had been subjected to severe and sometimes undeserved criticism. Their present proposition seems to meet with the approval of the people, city officials and newspapers of Kansas City.

The final valuation of the United Railways of St. Louis will be made by the Public Service Commission within a few weeks. It is expected then that the company will be reorganized and taken out of the hands of the receiver. The United Railways have an application pending for an extension of the 7-cent fare. There are indications of some slight opposition to this extension on the part of city officials and one or two newspapers in St. Louis, but this opposition is not blatant political or unreasoning and seems to be based largely upon the allowance by the Public Service Commission of an annual depreciation fund of \$1,500,000 allowed the railways which the city officials claim is excessive and unreasonable.

But the railways have been doing considerable reconstruction, etc., out of their depreciation fund, which city officials claim should be made out of capital account. But there is not, and under the receivership cannot be, any capital account.

It seems strange to note the promotion of new inter-urban electric railways, but there is a project afoot to build an electric railway 300 miles long along a ridge in the Ozark Mountains, from Houston in south central Missouri to Farmington, near the Mississippi river in southwest Missouri, to be operated by hydro-electric power from a proposed installation near Round Springs on Current river.

This part of Missouri lacks railroads running east and west. The proposed new electric line will, if built, intersect three trunk steam railroad lines and open up a country which has not adequate railroad service. So far, however, it is in an intangible condition.

Many companies in the state, including the Southwestern Bell Telephone Company, have made very successful sales to customer owners. The Southwestern Bell Telephone Company's customer-owner allotment for Missouri was subscribed twice over. The Kansas City Power & Light Company, the Union Electric Light & Power Company of St. Louis, Springfield Gas & Electric Company, Empire District Electric Company of Joplin, Missouri Utilities of Mexico, Missouri Public Utilities of Cape Girardeau and other southeast Missouri cities and other companies have put out issues of securities to their customers and in each instance met with a most gratifying response.

One very gratifying feature of the public utility conditions in Missouri is that the public have come to understand the operation of the companies and the absolute necessity for the increase of rates which took place during the latter part of the period of war deflation, 1917 to 1920.

There is absolutely no protest from any part of Missouri against the rates charged by the utilities. In some instances new members of the legislature have spoken of investigating these increases of rates. This talk is infrequent and is not noticeable and has met with absolutely no response from the people. Publications in the state have vigorously opposed certain extensions of rates, but the opposition was quickly abated and in some instances turned into approval, probably because it met with little response from the customers of the utilities to whom they were paying the rates. That seekers of public office have learned that opposition to utilities is of little assistance in their efforts to obtain office has been evidenced during elections of the past year. Some of the most violent official critics of the utilities in city offices were relegated to private life in April, 1922. At the November election a holder of the highest judicial honor in the state made his campaign on the grounds that whenever question of public utilities rates were submitted

to the court of which he was a member he invariably decided against the utilities.

It is remarkable that this gentleman was defeated by the largest majority of any judicial candidate on the state ticket. In one town in which his supporters placed advertisements in newspapers claiming that this judge's decisions have saved public utility users of that city \$250,000 there was a majority of over 7,000 against this particular candidate in an electorate of 12,000.

While the public utilities of Missouri cannot boast of more than the lean return recommended under strict regulation, and while the losses caused by the strikes have been very injurious, a great profit has come to them in better understanding and good feeling from the people whom they serve.

In Missouri the utilities are not getting rich, but they are operating competently and paying their ways. Political opposition is very slight and does not seem to have any effect upon the people. The greatest present asset of Missouri utilities seems to lie in the good will of the people whom they serve.

Some Pressing Problems Connected With Regulation

By CARL D. JACKSON*

Chairman Railroad Commission of Wisconsin

MANY people believe that the sole object of the establishment of regulatory commissions was to bring about the reduction of rates to the consumer, and as a matter of fact in the early history of regulation, reduction of rates or prices rather than the exercise of other functions of regulation absorb a large part of commission activities.

While it is true that regulation was first established largely as a protest against abuses and practices which the public had rightfully found to be against the public interest, it is now beginning to be generally understood that regulation must have in mind the fact that its principal purpose is to bring real service to all of the people upon fair and equitable terms not only to the consumer, but upon fair and equitable terms to the utility and carrier furnishing the service.

Regulation must proceed in accordance with economic laws, and any system of regulation which hampers or makes impossible the service which the utility was established to perform is not in the public interest but directly opposed to that interest. It is the bounden duty of regulatory bodies to see to it that the utilities they regulate are not only solvent but are healthy and profitable. It is not enough merely to let a utility exist, but it should have a compensation which will reflect itself in prosperous operation, good financial credit, healthy growth and good service.

The real interest of the public is that the utilities may continue to develop and expand to meet expanding requirements for service. Such regulation must recognize that adequate service can only be given under rates and charges that will encourage the rendering of such service to all who may desire it. Regulation which does not take these matters into consideration cannot in the long run be successful or meet public approval. It is for this sane, sensible and progressive regulation that I speak today.

It is my belief that regulatory problems will be gradually worked out by regulatory bodies along correct lines and in the public interest; that public service commissions may be depended upon to maintain financial stability of utility enterprises throughout the land; that they understand their responsibilities and have the courage to do their part in maintaining the economic well-being of the nation.

Gradually utilities are working out from under the adverse conditions of war and inflation, which at one time threatened their ability to render service at all, but it cannot be said as yet that the problem has by any means been fully

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solved. Especially is the situation most unsatisfactory as to our steam carriers, and much remains to be done also if local and interurban transportation of electric railways is to be placed upon a solid and satisfactory basis. Some of the utility problems will find their solution in wise administration under present acts. Other problems cannot be completely solved until a more enlightened public policy finds effect in legislation.

The steam railroads of this country perform a service absolutely vital to our welfare. It is probably safe to say that nothing could more adversely affect our welfare or perhaps more seriously threaten the very form of government under which we live, than the complete breakdown of our transportation system. The steam railroads are the arteries supplying the vital elements of our life as it is now lived. An unwarranted attack upon transportation just as vitally affects industrial welfare and the welfare of our farmers and workmen as would a direct attack upon industry itself.

The situation of the railroads today is such as to demand not unthinking or unreasonable criticism, but serious and constructive consideration. We are today having a practical experience in the transportation line of what inadequate service means. The present car shortage comes at a time when the demands for transportation service are not nearly what they will be when industry is again in full swing throughout the country. This means that we must bring about conditions that will insure the necessary increase in railroad facilities to keep pace with our industrial development, for transportation limits are also the limits of production.

Inadequate transportation facilities necessarily means the loss or stoppage of business, the tying up of money in both raw material and manufactured products, frozen credit and curtailment of available capital for the business of the country. It means a direct loss and discouragement to the farming community, which is after all the basic industry upon which all of our prosperity is founded.

Our present situation is due to a failure to adequately increase our railroad facilities during the last five or ten years, and this failure, of course, is based on a lack of foresight in the past. I shall not discuss how far it may be due to a short-sighted policy on the part of the carriers, or be due to the war or governmental control, or to restrictive laws like the Sherman Act or Anti-Pooling Acts, or how far there may have been a failure to measure up to the full responsibilities of regulation. I do believe, however, that undue emphasis was placed upon the desirability of lower rates and lower prices for service rendered, very often to the exclusion of consideration of those economic conditions and necessities for revenue upon which alone adequate service could be based. The public had not come to realize the full effect of the existing economic policy; and that failure during this period to meet the situation in a far-seeing way was a mere reflection of the general public attitude toward utilities and carriers. But we are faced with a present problem and this demands not only a study of the past but a careful survey of the future. It is far preferable that we foresee and prevent disaster, than that we cure it after it has come upon us.

There is much discontent today, and some of this discontent is focused on the railroads. Of this latter discontent, much is wholly unreasoned and unreasonable. Very often it is based on an entire disregard or misunderstanding of facts. Here and there we find a tendency to ignore the actual services now being performed by the railroads or a failure to comprehend its importance or meaning to the country.

It is true that transportation service is being performed by other agencies than the steam roads, but the slightest knowledge of the actual facts would show that the service performed by the carriers is not of less importance today than it formerly was, but on the contrary, that service is greater today than ever before. The increase in tonnage hauled, service performed, has been steady for thirty or forty years. We are today doing about the same amount of

transportation that was done in the banner year of 1920,—the greatest year of transportation service in the history of this country. The amount of freight tonnage hauled by the carriers in 1920 is almost seven times the amount hauled in 1890. It is nearly three times that hauled in 1900, and it is over 70 per cent greater than it was in 1910. No pre-war year approaches the year 1920 in the matter of the amount of freight handled by the railroads.

There is no reason to expect a decline in the service that must be rendered, and there is every reason to expect a great increase in it; and it is perfectly idle to suggest or think of other forms of transportation replacing or performing the service now performed by the steam carriers of this country, and I believe this will be so, even though we take advantage of every economic form of transportation, including waterways, which should be developed.

The railroads in 1920 moved 413,700 millions of ton miles of freight. Perhaps the service performed can be made clearer if we take as a unit of work the moving of one ton 1,000 miles. That service was performed by the carriers four hundred thirteen million times in 1920, and in the future the railroads have got to perform this service not four hundred thirteen million times, but five, six and seven hundred million times a year. The facilities for the performance of this service must be available if this country is to prosper and industry is not to be stifled. The problem, therefore, is one of the greatest in this country. In part, at least, the regulatory bodies will be responsible for its proper solution. That means that the regulatory commissions must be courageous enough to regulate as their vision and judgment dictates, although it may be contrary to political expediency or public prejudice at the particular moment.

One of the helpful things that can be done is to continue the attempt already started to bring home to every person in the United States the facts in regard to the situation. If in the end these facts can be brought home to the public and the people can be made to understand how their own welfare is dependent upon the proper solution of the transportation problem there will no longer be any political advantage to that type of politician whose sole stock in trade consists of unreasonable attacks upon the railroads.

I believe that every effort should be made toward restoring better public relations between the railroads and the patrons and shippers. When this is accomplished, a great step will be made toward solving the problem. Also, the people should come to understand that regulation does not consist always of the reduction of rates and that regulation with this sole object in view is not in the public interest and that unwarranted reductions in rates may be directly against their own interest, leading in the end to an increase in our transportation difficulties.

Another great help would be an endeavor on the part of the carriers to bring about the ultimate object of the Transportation Act,—the elimination of unnecessary, unreasonable or wasteful competition among themselves. As yet no advantage has been taken or perhaps could be taken of the provision of the Transportation Act permitting consolidation or pooling as a means of doing away with unnecessary or wasteful competition. The carriers should come to think of the transportation system as a whole and as one transportation facility, and not as made up of a heterogeneous number of individual railroads. It seems to me that wise policy on their part would be the encouragement of co-ordination between their own and other means of transportation, to the end that there should always be available the cheapest, most economic and adequate service possible.

The street car situation throughout the country is gradually improving. Only a few years since, it was a question whether reasonable regulation in the public interest would be acquiesced in by the public or whether the street car systems in the country would be forced to suspend service under the old 5 cent fares. It took practical experience in many cities to finally bring the public to a full recognition of the necessity for this service.

In many cities, however, the street railways are unnecessarily hampered and the public interest is not subserved

by burdens unreasonably and inequitably thrown upon them.

The requirements that electric railways pay for paving construction represents in the last analysis an unfair discrimination against the car rider and in favor of the abutting property owner. The street car company is now treated as though it owned a private right of way in the streets. As a matter of fact, vehicular traffic in many cities is heaviest in the street railway zone. In some cities as high as 90 per cent of the traffic moves in this area. Riders on street cars are merely using the streets as passengers, the same as riders in other vehicles and there is no more reason for penalizing the street car rider than there would be for penalizing any other rider.

Now, as a matter of fact, it has been shown that the very existence of street car lines has brought about increases in real estate values, ranging from one to three hundred per cent, and it is a known fact that these values can be made or unmade by routing or rerouting lines. Is there any just reason why those who are already benefiting from the existence of this service should also be relieved of the ordinary burdens of paying,—why they should not meet their equitable share of this cost?

Other burdens are often cast upon the street railways, such as the obligation to remove ice and snow, sprinkling obligations, etc. All of these, like paving costs, add to the necessary capital and investment in the street railways and add greatly to the maintenance and operating costs thereof. Some of the street railways are operating under franchises requiring the annual payment into an amortization fund of a large proportion of their earnings. These contracts usually arose at a time when franchises were issued more or less as a speculative matter and at a time when it was generally supposed that a 5 cent fare would permit such amortization without any undue burden on the street railways and the car riders. Such provisions are now, however, acknowledged burden upon the present generation for the benefit of future generations, and in general it may be said that any unjust exaction required of any street railway must necessarily in the end be an unjust exaction upon the street car rider himself, for street cars are a vital necessity to a large part of our population.

The solution of such problems, as I have just referred to, must in most instances depend upon wise legislative action. As a general thing, they are beyond the control of the regulatory commissions under the present laws.

Another matter not within the control of regulatory bodies is the limited term franchise. A limited term franchise is a suspended sentence or threat. It is the outgrowth of the old speculative idea. It is directly responsible for many of the problems which come to us under regulation. A limited term franchise is notice that at some future date the municipality or state may see fit to treat utility property and legitimate investment in public utilities on the junk value basis. Such possibility discourages incentive, improvements, extensions and good service, and at the same time increases the cost of all financing. Theoretically and perhaps legally, to some extent at least, regulatory bodies would be and are justified in imposing rates sufficient to amortize a large part of the investment over the period of the limited franchise. Under any circumstances, the additional burden on the utility must in the end be borne by the users of service unless property is to be confiscated.

The solution of our utility problems depends upon public understanding of them. Every straight-forward educational effort must be put forth, and organizations like your own must do their part for the common good. The proper attitude of utility executives and operators and of regulatory commissions is well expressed by Mr. Martin Insull in a recent address before the National Association of Railway and Utilities Commissioners:

"The problem of bringing about an enlightened and sympathetic public opinion towards utilities is one of the greatest problems of the utility business. Along the lines of these fundamental problems of the utility business, the public must be educated before there can be a sympathetic public feeling toward the utilities.

The education has already started and the effect can already be seen.

"It, however, must go a very great deal farther if the public are to receive all the benefits that they can receive from the utilities of the country. Towards this end, the regulating bodies and the operators should co-operate in every way they possibly can. Regulating officials should not encourage the public to expect better service at lower rates without in any way pointing out the greater problems of the business in which their greater interest lies. They should not tell the public that through regulation the utility business is a business in which the profits are practically guaranteed. * * * While in no way relieving the operators of their duty to their properties of doing everything consistent with good business judgment to bring about a favorable public opinion in the communities they serve, I do think there is an equal responsibility on the regulators to also do all they can towards this end and particularly to the proper enlightenment of the public on utility problems.

"It is only human nature that the public is more influenced by the statements of their representatives, the regulators, than they are by those of the operators whom they cannot disassociate from a selfish motive in the opinions they express."

In closing, I would refer to one or two present political tendencies which may have very disastrous effect. One is the tendency to over-centralization of power in the Federal Government, and the other is the agitation for government ownership of utilities and railroads.

Things are not perfect and probably never will be on this mundane sphere and constantly we cast around for new remedies and new helps to progress. This has given rise to a tendency to call upon the Federal Government to take charge of almost all forms of human activity, to usurp all of the ordinary police power of the states and to substitute centralized paternalism for red-blooded initiative and local solution.

Many of the Federal bills now pending not only make heavy appropriations from the Federal Treasury, but call for corresponding amounts to be raised by the states. Supervision of all state activities if continued, must mean the necessary taxes not only for the Federal Government, but inexorably necessary taxes by the state governments, the proceeds of which are to be spent under regulation or supervision by the Federal Government.

Taxation in this country has ceased to be a light matter. It will for years bear heavily on all classes of society. When inordinate and unnecessary activity becomes coupled with inordinate and unnecessary taxes, there is reason to hope that the electorate will take an active interest in the matter and apply the necessary corrective. What our Fathers sought and established was well expressed in a late editorial of a western daily paper:

"The founders of the American system were wise men, statesmen of the first rank and when they sought to provide for local autonomy and local character while creating

a central government devoted strictly to defined functions of an essential character, they devised the wisest, most wholesome and vigorous form of government ever known to mankind. The tendency to overload a central government strikes at self-efficiency, builds up bureaucracy with all its evils and stultifies local responsibility. It works out a tyranny of majorities. It deprives the mass of the vitality of communities, standardizing them by imposing codes and restrictions. * * * It is time to recognize what the tendency to centralization means and to resist it wherever and under whatever guise it appears. It has been a curse to other countries. Americans if they value their heritage of freedom will not surrender that inheritance."

In a way this centralizing tendency is the outgrowth of unrest. We are inclined to forget that the Fathers laid down certain principles recognizing our dual form of government and safeguarding local government and control in the states, at the same time encouraging that free play for individualism which has created in the people of this country the greatest capacity for initiative, responsibility and progress found anywhere in the world.

Those foundations of our progress, prosperity and happiness, the right of individualism consistent with the welfare and safety of the government and people and the right of private property are assailed by those who would take advantage of this unrest and would teach us to overlook the fact that on these foundations we have reached the highest standard of living and general welfare known to history, where the exclusive luxuries of the few in times lately passed have become the common ordinary daily conveniences of all; that the individual's opportunity for progress, honor and influence is greater today than at any time in the world's history; that the opportunities for health, education and happiness are increasing, not decreasing, and are greater today than ever before; and that all of this has obtained and become a reality, not through the destruction of the individual and of his property rights, but through their recognition, not through socialism and communism but through individual effort and reward for merit and work, through individual initiative, thrift and legitimate ambition.

The wonders of achievement pile up on us in unabating flow until those romantic dreams of a few years since are the complacently accepted realities of our daily life. Yet such is the natural urge of us all to further progress and greater achievement that we pay little homage to the accomplished, but life in future Utopias.

We forget that all that has been done could only be done under a stable, orderly and just government, recognizing individual rights, and it is only when a great country of good people mistreated, mistaught and misled displays before our very eyes the awful picture of chaos and destruction following the actualities of socialism and communism that we again sense the blessings of our own form of government with its eternal principles of right and justice.

Out of this spirit of unrest I have referred to and the everlasting preaching by some of discontent with whatever is, and in part also out of that idealism which is so strongly

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characteristic of the people of this country has come the agitation for government ownership, such as has just been passed through in the State of California. It is found in the agitation for government ownership of railroads; it is found in the agitation for state ownership of large utilities. If successful, it would mean the socialization of a substantial proportion of our national wealth. Under any circumstances, such agitation for government ownership can only be looked upon as the entering wedge for the socialization of all property. It is the duty of all of us who love our country and value our heritage to combat with all proper means a tendency which cannot but in the end result in national disaster.

Utility Service in Nebraska

By HORACE M. DAVIS, DIRECTOR
Nebraska Committee on Public Utility Information

THE demand for more electric energy each month during the year that is closing has taxed the central stations to their capacity and stimulated new construction all over Nebraska.

The idea of super-power construction is being given a modest and conservative work-out. Early in the year a high tension line was constructed from the Kearney station of the Central Power Company to connect with the South Platte properties of the Intermountain Railway, Light & Power Company. This was co-incidental with enlarging the capacity of the Kearney hydro-electric plant, which is, in turn, connected with the water-power station at Boelus and the Grand Island steam plant. More recently the Central Power Company has started the construction of a 500 k. v. a. steam plant on the Platte river near Grand Island.

The Nebraska Gas & Electric Company is connecting up its many properties in the state with high tension lines. A large source of its power will come from the new hydro-electric station that is in process of completion on the Blue river at Barneston. The energy will be delivered at the Beatrice station which will distribute to many smaller villages and connect with the generating stations at Geneva, Aurora, York, Fullerton and on to Norfolk. The circuit will be completed by a line back through Plattsmouth and Lincoln to Beatrice.

More than fifty small municipal plants have discontinued the use of their own equipment and have contracted for electric energy from transmission line companies. In some instances the companies are distributing, but the current is purchased at wholesale by the majority of the towns and their own local lines are used for distribution. Twenty-two Nebraska towns have made contracts for new electric service during 1922 and there is a greater demand than can be met until more transmission lines are constructed.

Low water in the rivers during the particularly dry late-summer made unusual demands on fuel. The scarcity of coal has resulted in an almost general use of fuel oil under steam boilers.

Nebraska farmers are growing keen for electric service and in one instance a rural power district has been organized wherein the property within the district is bonded for the cost of erecting a distribution system and a transmission line to a nearby town where current will be purchased at wholesale.

The year has been generally marked by the expansion of larger companies and the disappearance of small stations, particularly those owned and operated by municipalities. There has been considerable shifting in ownership, all tending toward consolidations within the larger operating companies.

Bond issues by municipalities, for purpose of financing transmission lines, and fundings by smaller plants, have found favorable local markets. This is especially true of tax-exempt securities. Customer-ownership has been inaugurated by two prominent companies and the plan has met

with sufficient success to encourage the belief that it will grow in popularity.

Electric traction is in more comfortable position than a year ago. Service is generally satisfactory, equipment better and operating costs gradually coming down.

Telephone construction has been limited and wholly local. Rates are fairly stabilized and adequately protected from agitation, through the state control body. Small companies are able to finance their modest developments through local banks and customer-ownership.

No new gas companies have started and none have suspended operations during the year. It is noteworthy that the demand for gas has shown an upward trend since the coal shortage began in the spring. There is a marked interest in possibilities of house-heating with gas. There are two municipally owned gas plants in the state, one at Omaha and the other at Central City.

Despite the fact that municipal ownership of utilities was an indirect issue at the general November election, public relations on the part of the service companies is healthier than before for several years. This is largely due to a fuller understanding by the public of the problems of the utilities, and a well-grounded opposition by the agricultural element toward the further issuance of tax-exempt securities.

With the gradual easing of bank credits and a more hopeful feeling about stabilized prices for the future, new homes and business houses are being built and planned. Nebraska people are demanding added service by the utilities. They prefer service from private companies but expediency, long distances from companies now operating, and occasional arbitrary policies by operators of privately owned utilities, compel bond issues and consequent municipal plants.

Practically all utilities companies have resumed dividend payments and stockholders and security owners are feeling easier. While accurate figures are not available it is probable that more Nebraska money has gone into utility developments during 1922 than has been brought in from Eastern money centers. A feeling of confidence is returning in the state and the utility industries will rank well toward the top of the list in their rightful claims for public favor.

Customer Ownership in Wolverine State

BY ALFRED FISCHER
Director Michigan Committee, Public Utility Information

EVERY public utility in Michigan has put in a busy year. Despite the difficulties encountered as the result of the coal and rail strikes, there has been a steady development, expansion and increase in service volume. Definite progress has been made in gas, electric and street railway fields.

One of the activities which engaged the attention of utility men in the Wolverine state has been customer ownership of their securities. Michigan's two largest service companies, the Consumers Power Company and the Detroit Edison company, have been very active, with the result that they have added thousands of new names to their stock books. Campaigns have been resourceful and interesting and have had a strong appeal. The Consumers Power company has prepared many striking posters and window displays. As part of their effort to bring the story of power transmission home, they had airplane views taken all over their system, which covers two-thirds of lower Michigan. These included the power dams, the central station steam plants and views of cities and industries served. A model of their largest water power generating station was made for window display purposes by engineering students at the University of Michigan.

The National Thrift week movement, which is a country-wide effort to encourage systematic saving, is to be utilized by some Michigan companies who have partial payment selling plans for their securities. This comes the week be-

ginning January 17 and will emphasize the possibilities of thrift in investing money in strong securities of local enterprises.

Along with the other states in the Union, Michigan made many new records in electric consumption. October, the last month for which United States Geological Survey figures are available at the time of writing, showed a total of more than 200,000,000 kilowatt hours consumed. In this month, the Detroit Edison company reached a new high point in output, for a single day, passing the 4,000,000 kilowatt hour mark on November 14.

The construction program of Michigan electric utilities has been extensive. The more important projects include a million dollar development on the St. Joseph river by the Indiana and Michigan Light and Power company; completion of a dam in northeastern Michigan by the Consumers Power company; completion of a 40,000 horsepower station at Marysville by the Detroit Edison company, construction of a new modern steam generating plant at Ludington by the Michigan United Light and Power company. Many smaller improvements and replacements have also been necessary to keep pace with the demand for service everywhere. The projects in the aggregate represent many millions of invested funds.

The strength of Michigan's gas industry was reflected by the manner in which it weathered the rail and coal strikes. Only a very few of the smallest companies were obliged to interrupt regular service and either ration gas or stop service entirely and in no case were such instances more than a very few days in duration. There was some downward movement in rates at the beginning of the year, but the strikes made any progress in this direction temporarily impossible. There has been considerable expansion in the use of gas for industrial purposes in several cities where automotive and other manufacturing is established.

The street railway industry in Michigan has furnished much interesting food for thought, both to the public and to operating companies. The chief center of street railway interest was Detroit, where a start was made in municipal operation. The property is being purchased from the Detroit United Railway and the discussion of operating problems furnished as a result of the change has been wholesome on the whole, in that it brought directly to the people some of the matters which street railway men must consider constantly but which, under private operation are never given publicity.

For instance, street railway men have tried for years to obtain relief from the cost of paving between tracks. The city of Detroit tried to obtain such relief by ballot at the November election but was unsuccessful. Another illustration was furnished by an effort at the same election to have \$5,000,000 voted for improvements and extensions. It was pointed out that these extensions could not and should not be met out of current revenue. Yet this statement did not square with the campaign argument that every cost would be met out of gross earnings and that also was defeated. The effect has been to give the people of Detroit a view of

the business issues which confront the managers of a railway, regardless of who happens to hold title to the property.

Saginaw, where street cars have been idle for more than a year, has finally decided that it wants such service again. Only 15 votes short of a needed 60 per cent kept the cars in the barns after the recent election, when a franchise was voted upon favorably by a plurality of more than 3,400 citizens.

There has been general public satisfaction with the regulation of the utilities. The state commission has repeatedly stated that in considering cases brought before it, first consideration will be given to the standard of service maintained. Poor service will result in reduced dividends and good service and economical operation will not be penalized by rates reduced below standards that will allow regular dividends that may attract new capital for expansion and high class operation.

All utilities in this state are apprehensive of a repetition of the coal strike. It has been repeatedly pointed out that if there should be another tie-up, public utilities will not be able to weather the storm with the same protection they had in 1922, because of the fact that there has been no opportunity to replenish stock piles since the resumption of mining. The forward looking companies are doing their utmost to anticipate whatever developments can be foreseen, yet it is sincerely hoped that April 1 will pass without the calling of another strike.

The Utility and the City

BY CHARLES A. BOOKWALTER
Former Mayor of Indianapolis

Address Before the Indiana Electric Light Association

I AM not the owner of public utility securities. I have never reached that fortunate situation where I could put something away and then trust to the public to kill its value. I have always been on the other side.

As a public official I have never been in favor of public ownership of utilities. I reached that state of mind after observing the experience of cities with that great problem of public ownership.

We have provisions in our franchises compelling our utilities, such as gas and water companies, to lay a minimum number of feet of pipe each year. There hasn't been a year within my experience in the city of Indianapolis—which covers a period of thirty years—that every utility that we have hasn't exceeded the requirements of the franchise by from one hundred to two hundred and fifty per cent in the matter of extensions. Do you think that would have been done under public ownership? They wouldn't have had the money, and the public wouldn't have granted them the money, and they would have been dragging back on the population, instead of being on the edge, beckoning on the growth of the community.

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It may require considerable expenditure of money to anticipate the needs of a community, but it will return. Beyond question, if the equipment at the central power house is adequate to take care of the leads that are constructed from the point of generation of the energy. It requires business acumen, it requires the burning of a considerable quantity of midnight and other kinds of oil to bring these needs into correlation. But it can be done, and it should be done.

But you can't do it unless the community is fair with you and will give you sufficient revenues to not only pay your meal ticket, but to put into your pockets the necessary funds with which to do this development work, and to do this work on the outside, that contributes to the growth of the community.

The Public Service Commission came into existence and began to function about the time that prices began to go up. They raised the price of bread on me; they raised coal on you; they raised flour and sugar on me; they raised copper on you. When my employees got more wages, yours did too. When my living costs went up, yours did, too—and you were tied to an arbitrary contract rate.

I look back with special pride to the fact that, because of the action of the city of Indianapolis in the early days of the development of the traction business, that city became one of the greatest traction centers of the country. We were pioneers, and we stand as possibly the second city in the United States that has reaped the benefit of the development of the traction railways.

Did the people of Indianapolis understand the traction proposition? No, they did not. They had to be educated up to it. You just suggest to the people of Indianapolis today that the Indiana Union Traction, the Louisville Traction, or any of those companies, should withdraw their lines from the city of Indianapolis—or even the Beech Grove line, which operates from the Big Four shops down into town—and they will come as near hanging you for making the suggestion as they came to hanging me for letting those traction lines come into the city!

Just a few years ago it was the most popular thing on earth for a man looking for cheap notoriety, or temporary prominence in matters public or political, to jump onto corporations. They were like the harpies and the gamblers—they had no friends, anyhow, and so it was perfectly safe to jump onto them, if you wished to advance your own personal interests, and the harder you jumped the harder you rebounded in the political firmament.

Consequently the demagogue got busy, and woe unto the man with the courage of his convictions, who dared to take the floor and say a single word commendatory of corporations.

I believe that time has passed. Those men are not so much in evidence, and they don't find it so convenient and satisfactory to them to take that slant in the discussion of things public, or which they seek to elect as public questions.

Now I come to the proposition as to why I am in favor of the Public Service Commission. I believe it is the best way to deal with corporations. And I believe that way because I have dealt with corporations by both methods. I have dealt with them in the old days, when, under the provisions of the city charter we controlled them, and nobody else, except the city council, had a voice in the matter. The mayor and the board of public works controlled them. And I have lived with them during the time that the Commission has controlled them, and I want to say that the situation in Indiana today is better because of that law than it was before, because there doesn't arise in the various communities, and cities throughout our state the scandals that used to develop once in a while in connection with the political side of the corporation. A corporation has no business in politics. But in the old days, if the corporation wasn't in politics it had no business.

You talk about the corruption of city officials, and about city officials corrupting corporations—I never yet knew of a corporation that went out and hunted up a city official to try to corrupt him. If anybody was going to make an effort in that line the official approached the corporation, and it

wasn't out of generosity of their hearts that they came through, but because of the exigencies of the occasion that they did it.

But now you go before the Commission and you present your proposition in a business like form, and it is heard upon a business basis.

Utilities of Oklahoma in Marvelous Growth

*By O. D. HALL, SECRETARY
Oklahoma Utilities Association*

PUBLIC Utilities of Oklahoma are keeping step with the progress of other states and building for the future. Marvelous progress has been recorded during 1922 by the Public service companies of this state. The development of the electrical industry has been especially marked. More than 400 miles of new electric transmission lines have been built during the past year and 500 miles of such lines are now under construction or projected for 1923. By the end of next year, Oklahoma will have at least 1500 miles of high line construction as compared with about 600 miles at the beginning of 1922.

Small electric light plants, especially those that are municipally owned, are rapidly being thrown into discard in this State and there is a marked tendency towards the furnishing of light and power over high lines connecting with large central power stations. One system of high lines in this state is now connected with ten large generating plants. The crippling of any one of these would not interfere with the service over this transmission system, as power could be cut in from the other plants.

Oklahoma is rich in oil, gas and coal, all of which are ideal fuel for the generating of electricity. This State, according to recent figures of the U. S. Geological Survey, utilizes more natural gas in the manufacture of electricity than any of the other states in the Union, excepting two, although its total output of electric energy is small as compared with that of some of the older states.

Fuel oil is also used in large quantities in the manufacture of electricity in Oklahoma. During the month of September, according to the U. S. Geological Survey, 60,500 barrels of fuel oil were used in the manufacture of electricity in this state. Only six other states beat this record in the consumption of fuel oil during that month. Notwithstanding its rich heritage of oil and natural gas, however, the electrical industry in Oklahoma uses some coal for fuel and the new plants now being constructed are built with a view of burning coal when gas and oil become scarce.

The Byllesby interests of Chicago, represented in this state by the Oklahoma Gas & Electric Co., have an ambitious construction program for Oklahoma during the coming year. This Company expects to expend \$10,500,000 during that period. Construction work is already under way on a \$3,000,000 steam power plant located on the Arkansas river, near Muskogee. This plant will use fuel oil at the beginning but will be equipped for the burning of coal and has been located in close proximity to the coal fields, with this in view. This plant will have a capacity of 22,500 kilowatts at the start and may ultimately go to 50,000 kilowatts. It will be the center of a great transmission system covering many counties in Eastern and central Oklahoma, including a 100-mile line to Ft. Smith, Ark., to cost \$600,000 with a branch running into the heart of the Oklahoma coal fields to cost \$100,000.

Along the line of this transmission system, many small electric light plants have been absorbed including those at Checotah, Eufaula, Poteau, Heavener, Depew, Webber Falls, Gore and Vian.

The Oklahoma Gas & Electric Co., recently announced that work would begin at once on another big electric power plant to cost \$3,000,000 to be built at Harrah, near Oklahoma City. This will be 20,000 horsepower and have a generating capacity of 15,000 kilowatts, with an ultimate

capacity of 50,000 kilowatts. The construction is expected to be completed by the end of 1923.

The Oklahoma Power Company at Tulsa has already started the enlargement of its big power plant on the Arkansas river in West Tulsa. The capacity of this plant is being doubled, giving it 20,000 horsepower. The energy from this plant is distributed chiefly by the Public Service Company of Oklahoma and the Oklahoma Power Company, which are subsidiaries of the Middle West Utilities company of Chicago. The Public Service company of Oklahoma, The Oklahoma Power company, the Choctaw Power & Light Company, the Southern Oklahoma Power company, the Lawton and Duncan Electric company, the Sand Springs Light and Water company, are among the electrical utilities in this state that are the most active in the extension of high lines and the enlargement of their power facilities.

Nineteen hundred and twenty-two will be famous in the annals of Oklahoma as the year in which the greatest progress was made towards the absorption of municipally-owned electric light plants. Fifteen such plants have been taken over by privately owner companies during the year. This statement should be modified by explaining that in a few cases, the cities have retained their local distributing systems and have made contracts to purchase the electricity from high lines either at the city gates, or have voted bonds to build a high line to the plant of the privately owned company. In all of these cases, however, with the exception of one, the cities have discontinued the manufacture of electricity in the city plant, after being convinced by experience that they could not continue the manufacture of electrical energy in the small municipally owned plant as cheaply as they could purchase this energy from the high lines of the privately owned utility. The one exception is Pawhuska, which is using high line service to supplement the energy it manufactures in its own plant.

The introduction of the automatic telephone into Oklahoma occurred during 1922. The first automatic exchange was installed in February, by the Southwestern Bell Telephone Company to serve the northwestern residential section of Oklahoma City. The equipment and exchange building cost the company nearly three-fourths of a million dollars. The company plans to extend this machine switching equipment to other parts of Oklahoma City during the next few years and also to install exchanges in other cities.

This company, during 1922 also practically rebuilt its exchanges in several Oklahoma cities and towns. These improvements include expenditures of about \$300,000 in Tulsa, and substantial improvements at Cleveland, Holdenville, Drumright, Okmulgee, Henryetta, Tonkawa, Muskogee, Perry and Ardmore.

There are approximately 300 independent telephone companies in this state and several of these have installed new exchanges and greatly improved their local facilities. Among these improvements, was the extension and installation of new equipment and machinery by the Broken Arrow Telephone Company; Western Telephone company of El-

more City; The Guymon and Hansford Telephone company, at Guymon; Poteau Telephone company, at Poteau; Frederick Telephone company, at Frederick; Yale Telephone company at Yale, and the Sand Springs Telephone company, at Sand Springs. The Yale Telephone company and the Frederick Telephone company have been pioneering in the use of radio as a supplement to telephone service and are giving, receiving and broadcasting radio service to the citizens of their respective towns and communities. Several new oil towns that have sprung up almost like magic during the past year have already been supplied with telephone service through the enterprise of the independent companies, including Magnolia City, Apperson, and Shidler.

Oklahoma was fortunate during the past year in having a plentiful supply of natural gas. Present indications are that there will be no gas shortage in Oklahoma during the coming winter. For several years, Oklahoma cities and towns suffered periodically during cold weather from gas shortages. The Oklahoma Natural Gas company, the Empire companies, the Lone Star Gas company and other gas transportation utilities in this state have spent millions of dollars within the past two years in attempting to overcome as far as possible, the danger of gas shortage. The Oklahoma Natural Gas Company has opened up several lines which lead to gas fields now practically exhausted and rebuilt them to fields recently discovered.

This company has spent more than a million dollars a year in attempting to overcome the gas shortage in this state. While Oklahoma stands second in the production of natural gas, the life of most of the wells average about three years and gas companies are continually put to great expense in seeking new sources of supply and building new lines to these fields. A number of very large natural gas producers have been brought in during the past year and several of these have been connected with the lines of the great transportation companies which have contracted for new supplies in order to be ready for an emergency that might arise. The local gas distributing companies have also spent large sums in enlarging local distributing mains, repairing leaks and in educating their patrons to a more conservative and economical use of natural gas. More than a score of towns, heretofore, without natural gas service, have been supplied with local distributing systems within the past year and franchises have been granted by about a dozen more towns to companies that proposed to furnish gas to them within the next few months.

There is but one artificial gas plant in Oklahoma, at Chickasha, where efforts are now being made to secure natural gas from big wells that were brought in last summer near that city. About 200 cities and towns in this state have natural gas service. These lie mostly in Eastern and central positions of the state. Few towns in Western Oklahoma have natural gas service.

The past year shows but few extensions to the electric railway systems of Oklahoma. Only a few miles of inter-urban lines have been built and extensions of city lines have

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been confined chiefly to Oklahoma City, Tulsa and Muskogee. Electric railways in Oklahoma, as in other portions of the country, are just beginning to recover from the evil effects of the war and the reconstruction period. Three electric railways cities of the state succumbed to the troubles growing out of that period combined with automobiles and jitney competition. This was in Bartlesville, Okmulgee and Ardmore. The last to suspend, being the Ardmore line.

The two electric railway systems at Tulsa, have spent several thousand dollars within the last year in improvements, regardless of the fact that they have been compelled to compete with jitneys and bus lines. The Tulsa Street Railway Company has put on several twenty-five passenger buses, supplementing its trolley lines in that city. The Oklahoma Union Railway company, which is chiefly engaged in interurban traffic, has made many improvements and is now planning to build interurban line to Claremore and other cities in Eastern Oklahoma. The Oklahoma Railway Company, with headquarters at Oklahoma City, the largest single system in the state has spent approximately \$300,000 in extending and improving city lines at Oklahoma City. That company is now engaged in attempting to finance an interurban extension from Guthrie to Stillwater, also proposed purchase and electrification of a branch of the M. K. & T. railway, running from Oklahoma City to Atoka.

The Pittsburg County Railway company has purchased several new interurban cars that represent the latest word in modern construction and has also obtained new terminal facilities in McAlester, anticipating future rapid growth of its business. The Northeastern Oklahoma Railway company has made some extensions of its lines and is now negotiating for franchise and bonuses for several cities in Northeastern Oklahoma, looking towards further extensions of its interurban system.

The Joplin and Pittsburg Railway company has already begun an extension of its line from its present terminus at Columbus, Kansas to Picher, Oklahoma. Columbus voted \$20,000 in bonds to assist in this extension which will cost approximately \$350,000.

A Review of Ohio Public Utilities for 1922

By BENJAMIN E. LING

Director, Ohio Committee on Public Utility Information

In a year characterized by a general revival of business and industry in almost every line of endeavor, as compared with the, for the most part, gloomy days of 1921, it naturally follows as a matter of course, that the public utilities of Ohio, taken as a whole, participated in a marked degree in the almost universal, if indeed relative prosperity of 1922.

Using the best barometer at hand at the present moment, namely, the output of electrical energy from the central station plants in Ohio for the ten months of the year up to November 1st, it can be stated that the entire year, while possibly not the fattest in the way of income for all utility companies, was assuredly far from one of the leanest in earnings for all phases of the utility industry.

Indeed, the electric light and power industry throughout Ohio came back in a most extraordinary manner during the year just ending. This is best demonstrated by the fact that the public utility power plants in Ohio during 1922 reached new high records in the generation of their product.

In the year 1921, the peak output of electrical energy for any one month was 231,986,000 K. W. hours attained in the final month of the year, December, while in the ten months so far reported in 1922, each thirty-day period has been in excess of that 1921 peak, with but two exceptions, culminating in October's new high record mark of 283,394,000 K. W. hours.

In short, in ten months of 1922 the electric central stations of Ohio generated and sold 2,456,796,000 K. W. hours of electrical energy, as against a total for the entire year

of 1921, of 2,505,758,000, which means that the gain for this whole year over last may well exceed 500,000 K. W. hours when the November and December power records are compiled.

The following table tells the K. W. hour production month by month, for the two years, of Ohio central station plants, in the most striking manner:

Month	1921 K. W. Hours	1922 K. W. Hours
January	222,423,000	232,073,000
February	195,596,000	216,378,000
March	213,176,000	242,250,000
April	205,301,000	228,684,000
May	198,688,000	242,926,000
June	198,339,000	244,743,000
July	194,141,000	240,204,000
August	205,990,000	266,126,000
September	205,300,000	260,018,000
October	207,829,000	283,394,000
November	226,989,000	.....
December	231,986,000	.....

Inasmuch as Ohio's industries are largely electrified and for the most part receive their power from the central station plants, these figures tell a most remarkable story of better business and renewed industrial activity in every way in Ohio during 1922.

In the eleven big industrial centers of the state, huge increases in the amount of electric current production were especially noticeable, varying from an increase of 13 per cent for Columbus, 17 per cent for Dayton and 18 per cent for Lorain, to an increase of 40 per cent for Akron, 35 per cent for Youngstown, 69 per cent for Canton and 91 per cent for Warren, with increases of 21 per cent for Cleveland, 30 per cent for Cincinnati, 20 per cent for Toledo and 19 per cent for Alliance in between, the average increase for the entire 11 industrial centers being 28.4 per cent in greater electrical energy produced and consumed.

While not so marked, this tremendous increase in the output of electrical energy in Ohio has also been reflected in improved conditions for the other phases of the utility industry, such as the telephone, the gas and electric traction utilities.

Financing of Ohio's great public utility enterprises continued during 1922 to be one of the most engrossing problems of the operating executives. In the course of the year, up to the middle of December, the State Utilities Commission had authorized the electric light and power, telephone, electric railways, gas, water and motor bus utility companies to issue and sell \$92,873,244 worth of new securities. Of this total \$66,848,055 was for refunding and reorganization purposes, while \$26,025,189 was to improve and extend and better service.

The following table specifies the purpose for which the State Utilities Commission authorized the issuance of the new securities:

	Refunding and Reorganization	Additions and Betterments	Total Authorized
Electric light and power.....	\$27,691,498	\$12,232,990	\$39,924,488
Telephone	3,207,665	4,275,449	7,112,549
Electric railways	25,170,192	8,758,650	33,198,842
Natural gas	10,000,000	.....	10,000,000
Manufactured gas	8,200	.....	8,200
Water	770,500	269,200	1,039,700
Motor bus lines.....	.....	488,900	488,900
Grand totals	\$66,848,055	\$26,025,189	\$92,873,244

These figures indicate that the public utility companies of Ohio had to obtain money for their new capital requirements at the rate of about \$210 a minute, more than \$300,000 a day or approximately \$3.50 a second. In other words, the public service companies had to invest over \$15 additional new capital for every man, woman and child in the state during the past year. In order to obtain part of this new money, the public service companies continued their plan of encouraging customers to buy utility securities and if possible, to invest enough to permit their dividends to pay their bills for public utility services.

Customer ownership of utilities, in fact, is steadily gaining greater momentum throughout the state. In less than thirty days, for example, the Ohio Public Service Co., operating electric light and power plants in Lorain, Elyria, Warren, Massillon, Mansfield and Alliance, sold more than \$1,000,000 worth of securities to more than 2,512 customers and employes.

The number of Ohioans who own public utility securities is rapidly growing in number and today it is estimated that in excess of 150,000 are drawing dividends from their holdings in public service corporations.

Substantial progress was also made during 1922, looking toward the ultimate physical interconnection of all the great electric light and power companies in the entire state. In fact by the spring of 1923 power produced down on the Ohio River will meet up with that produced up at the upper end of the state on the shores of Lake Erie, by means of great transmission lines now being built.

New generating stations and transmission lines covering many miles have been completed during the year or are in the course of construction, by the American Gas & Electric's interests, the Ohio Public Service Co., the Cleveland Electric Illuminating Co., the Dayton Power & Light Co., the Toledo-Edison Co. and the Union Gas & Electric Co. of Cincinnati. In fact, the building program of these companies started or planned during 1922 will exceed in cost \$25,000,000.

New customers, industrial, commercial and domestic, were taken on during 1922 by the electric light and power companies at such a rapid rate that today these concerns have more than 800,000 meters installed for electrical service, or an average of about one meter for every seven persons in the state.

In the realm of the telephone, the year has been signalized by the rapidity with which the Ohio Bell Telephone Co. has been eliminating dual systems in the various cities. At the start of the year there were 38 cities and towns in which the telephone service was to be unified by the Ohio Bell Telephone Co. as a result of its purchase of competing lines. Up to the middle of December, no fewer than 17 of these 38 cities had already had their telephone service combined into one system, these places being Dresden, Celineville, Columbiana, Sebring, Leetonia, Roseville, Lisbon, East Palestine, Nelsonville, Sandusky, East Liverpool, Wellsville, Fostoria, Dover, Washington C. H., Salem and London.

As a result of the taking over of the Chesapeake & Potomac Telephone Co. properties at the beginning of the year, the Ohio Bell now operates all the Bell properties in the state with the exception of that in Cincinnati.

There are today more than 810,000 telephones in use in Ohio.

Due to the fact that natural gas is becoming increasingly difficult to obtain, and also due to the mild weather, Ohio's natural gas companies, generally speaking, did not enjoy a prosperity equivalent to that of the electric light and power companies in 1922, but Ohio still continues to be the greatest natural gas consuming state in the Union, with its 946,802 users, and as quickly as a number of rate questions are settled, this phase of the utility industry looks forward to better prospects in the future.

The business depression of 1921 did not affect the city and interurban traction companies as strongly as it did other businesses, with the result that their big slump came in the early months of 1922, but for the past five months, all of these lines have been enjoying a far better business than in the early part of the year. Reports from Cleveland, Toledo, Cincinnati, Columbus and Youngstown show that the railway companies in those cities all will carry many thousands more riders this year than last.

Motor bus competition and the increasing use of automobiles has continued to effect very seriously the interurban industry in Ohio, representing an investment of more than \$230,000,000. In fact, motor buses are now covering more distance miles between cities in Ohio than are the interurbans, the one-way passenger carrying mileage of the motor buses being a trifle more than 3,100, while that of the interurbans is less than 2,900 miles.

During the course of the year, literally hundreds of new motor bus operators have started in the transportation business, and today there is no city of any size in the state but what has anywhere from two to a dozen bus lines radiating

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out of adjoining communities. The number of lines exceed, in fact, 600, and recently there has been started a movement to combine numbers of these companies into larger corporations.

Two years ago the State Legislature placed motor bus lines under control of the Public Utilities Commission, but this law was so loosely drawn that, in effect, its only requirements are to cause the motor bus operators to make reports to the commission without giving the commission any specific power over them.

At the coming session of the Ohio Legislature, drastic legislation is being planned, covering the operation of these buses.

The Farm Bloc in the Legislature is uniting with other interests to enact legislation that will require motor buses and motor vehicles used for carrying freight to obtain a Certificate of Convenience and Necessity from the State Utilities Commission before they begin operation, that will tax them according to the weight and speed in proportion to damage

done highways, and which will also require them to be covered by heavy liability insurance.

The bus operators, on the other hand, have just perfected a state-wide organization to fight any attempt at anything they consider too drastic legislation that might imperil their business.

The total gross operating income of the natural gas, electric light and power, telephone, artificial gas, privately operated water companies, and city and interurban railway companies in 1921, was \$235,513,894.05 on an investment of \$1,059,710,277.52. The operating expenses for the year amounted to \$177,532,800.97.

Based on reports for the first ten months of 1922, it is certain that there will be a large increase in the operating income of all phases of the utility industry in the state for this entire year, without a too great boost in operating expenses.

In brief, it is the confident feeling of Ohio's utility and more prosperous year to come in 1923.

operators that 1922 has seen the foundation laid for a better

PHASES OF PUBLIC UTILITIES MANAGEMENT DISCUSSED BY EXPERTS

Investment and Speculation in New York City Traction Bonds

By WM. CARNEGIE EWEN

Mr. Ewen has specialized in the New York City Traction bonds for a number of years, and is generally conceded to be the leading authority on those issues.—The Editor.

FOR the past five years or more, the New York City Traction Companies, in addition to their primary function as common carriers, have served the purpose of a "political football." Republicans and Democrats, alike, both in City and State campaigns, have taken a "crack" at the Traction Companies. The general public has viewed, with apprehension, the political prominence that has been given these companies. The investor has inquired, "What will Hylan do?" or "What will Smith do?" or "What will the Transit Commission do?" Few have asked the more important question, "What CAN they do?"

It should not be forgotten that the Traction Companies have certain fundamental rights, and at the same time, the City and State have certain limitations in their powers. These rights and limitations may be briefly summed up as follows:

1. Under the Constitution of the United States, private property cannot be confiscated.
2. The Companies operate either under long term franchises, or under contract with the City of New York (as in the case of the I. R. T. and B. R. T. subway elevated systems), which cannot be rescinded or broken without adequate recompense to the companies.
3. Under its present Charter, the City of New York is not empowered to own or to operate public utilities.
4. The City's borrowing capacity is automatically limited by Law.

From the foregoing, it is evident: First, that until its Charter is amended (which would take considerable time to put through the necessary Legislation) the City of New York cannot acquire its transit lines. Second, that even if the City should be thus empowered it could not confiscate the lines, but would be obliged to take them over on a fair basis of valuation. This matter of the valuation could be carried up to the Supreme Court of the United States for adjudication, if necessary. Third, that even if the City proposed buying the lines at a valuation which met the approval of the various security holders, there is a grave question of the City's ability to finance the project, owing to the limitation if its debt as controlled by Law.

The Traction Companies were greatly handicapped and embarrassed by the tremendous increases in operating costs which came as a result of the period of Post War inflation.

The price of coal more than doubled and wages nearly trebled. In the face of these great increases in operating expenses, the various companies were not granted any relief, in the form of an increased fare, even of a temporary nature. Earnings melted away, and numerous companies were forced into Receivership. During this extreme period, the unyielding attitude of the Board of Estimate, as to fare increases, was indeed a menace, but, with the passing of the period of inflation and the gradual return of general conditions to a normal basis, the Traction Companies are gradually working into a position where many of them will be able to report substantial earnings on the five-cent fare basis.

All the New York City Traction Companies make their returns for the fiscal year to June 30th, and the annual figures for the year which ended June 30, 1922, have recently been made public. In practically every instance, a very marked improvement is shown over the preceding year, and in many cases substantial earnings are reported after the deduction of all fixed charges.

Indications are that the Traction Companies have definitely and unquestionably "rounded the corner." The lean years of the period of post war inflation taught valuable lessons in economics and efficiencies in management, and the continuation of decreases in operating costs, as they approach a more normal level, are being reflected in Net Earnings.

With these facts in mind, the writer is of the belief and opinion that some unusual opportunities exist at the present time among certain of the underlying bonds of the Traction companies of New York City. Many of these issues are secured by first "closed" mortgages on New York City real estate, which, in some cases, has an assessed valuation equal to more than the selling price of the bonds. A brief resume of some of the more attractive of these issues, both from a standpoint of investment and speculation, will tend to illustrate a few of the unusual opportunities which are available.

Kings County Elevated Railroad Company First Mortgage 4s of 1949

The Kings County Elevated Railroad Company was merged with the Brooklyn Union Elevated Railroad Company in 1900, and in 1912 this latter company was consolidated with two minor lines to form the New York Consolidated Railroad Company. The New York Consolidated Railroad Company is controlled by the Brooklyn Rapid Transit Company, through stock ownership, and as the "Consolidated" company is the operator of all the B. R. T. subway and elevated lines, its great importance to that system is apparent.

The Kings County Elevated First Mortgage 4s are outstanding only in the amount of \$7,000,000. They are secured by an absolute first and "closed" mortgage on very valuable properties. The properties against which the bonds are a

first lien consist of about 8.40 miles of elevated railroad structure and 8.10 miles of private "right of way," as well as other parcels of real estate not used in the operation of the Road. The "private right of way," which is 50 feet wide, and owned in fee, runs directly through the heart of "Flatbush," one of New York City's finest and most exclusive residential districts. The mortgage also covers a parcel of property, known as the "Brighton Beach Hotel property," consisting of 19 acres on the ocean front, which is now being developed for bungalow sites. On a real estate basis, alone, these two parcels, i. e., the private right of way and the Brighton Beach Hotel property, are worth, in the writer's opinion, more than the present aggregate selling price of the outstanding bonds.

The New York Consolidated Railroad Company operates its own elevated lines in connection with certain City-owned subway lines, under a long term contract with the City of New York. The contract specifically provides cumulative preferentials, out of net earnings, to which the company is entitled before the city receives anything, and against these preferentials the prior charge is the interest on the Kings County Elevated 4s. Thus, the combined earning power of the entire B. R. T. subway and elevated system (including city-owned lines) stands behind these bonds. For the fiscal year ended June 30, 1922, these combined net earnings amounted to \$6,640,000, or the equivalent of over TWENTY-THREE times interest charges of \$280,000 on the bonds in question. Interest on the bonds has been paid regularly and without interruption since issuance in 1899.

Kings County Elevated 4s are currently selling at about 75, yielding close to 6 per cent to maturity. They compare favorably with many railroad issues which are selling at little better than a 5 per cent or less, and may be classified as a thoroughly conservative and "gilt edge" investment issue.

Brooklyn Union Elevated Railroad Company First Mortgage 5s of 1950

These bonds might well be termed a "sister" bond to the Kings County Elevated 4s. They are outstanding in amount of \$15,967,000 and are secured by a first "closed" mortgage on valuable and important elevated lines, which are closely linked up with the city subways. They are additionally secured by a second mortgage on all the properties of the Kings County Elevated.

Both the Kings County Elevated 4s and the Brooklyn Union Elevated 5s underlie \$16,000,000 Receiver's Certificates and over \$33,000,000 par value of other junior securities. At their present price of about 83½, the Brooklyn Union Elevated 5s yield about 6.25 per cent. They are extremely well secured and entitled to an excellent investment rating.

Interborough Rapid Transit Company, 10-Year 7% Secured Notes of 1932

The capital readjustment of the Interborough Rapid Transit Company, which has recently been carried out, has definitely removed any danger of Receivership and placed the company on a sound basis, owing to substantial reductions

that have been made in fixed charges.

The Ten Year 7 Per Cent Secured Notes of 1932 are secured by pledge of the Company's First & Refunding Mortgage 5 Per Cent Bonds of 1966, at a price of 57½. In other words, each \$1,000 Secured 7 Per Cent Note has behind it \$1,736 par value of First & Refunding 5s. As the First & Refunding 5s are selling at about 74, the degree of security behind the notes is evident. The notes carry a conversion privilege, whereby they may be converted into the First & Refunding 5s at 80 for the first three years; 85 for the second three years, and 90 for the last four years of the duration of the notes. Thus, any upward move which might take place in the First & Refunding 5s would be directly reflected in the notes.

The notes are selling at about 95½, at which price the yield is approximately 7.65 per cent. These notes have a good degree of security and their convertible feature and high yield makes them doubly attractive as a semi-speculative investment.

Broadway and Seventh Avenue Railroad Company First Consolidated 5s of 1942

This line forms the "backbone" of the New York Railways System. Its route runs from 59th Street and Central Park, down Seventh Avenue and Broadway, to South Ferry, most of the traffic being short-haul. The company also owns the entire block, bounded by Sixth and Seventh Avenues and 50th and 51st Streets, Manhattan, and a large office building at Broadway and Houston Street, known as the "Cable Building." The assessed valuation of this real estate, alone, without any valuation for trackage, franchises, equipment, etc., amounts to more than the present aggregate selling price of the bonds.

The company is a part of the New York Railways System, which guarantees the interest on the bonds under the terms of its lease. It is inconceivable that New York Railways would permit a default in the interest on these bonds, for by so doing the holders could foreclose the mortgage and recover their property, which is so strategically situated that the entire New York Railways system would be disrupted as a result. Interest has been paid continuously on these bonds since they were issued over 28 years ago. They offer unusual profit possibilities, combined with a strong degree of security, and at their present price of about 70, yield approximately 8 per cent.

Third Avenue Railway Company Adjustment Income 5s of 1960

These bonds are an out and out speculation, but they have possibilities for a very large market appreciation, which makes them especially attractive. Interest is payable only if earned, but is cumulative and at the present time the accumulated back interest amounts to 22¼ per cent. The bonds, however, are now paying current interest at the rate of 5 per cent per annum, and there is no reason to question its continuance.

The company has recently made public its annual report

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for the fiscal year ending June 30, 1922. Earnings for this period showed the interest on the Adjustment Income 5s fully covered with a surplus remaining of over \$200,000. The Balance Sheet indicated a very sound working capital position. Current Assets stood at \$5,400,000 against Current Liabilities of only \$1,900,000. Of the Current Assets over \$4,500,000 was in cash items and government bonds.

From the foregoing it is apparent that the company is in a position to make a substantial payment on account of the accumulated interest on the Adjustment Income bonds. The management, however, is very conservative and, unquestionably, will not jeopardize their strong cash position until they are thoroughly convinced that the company is entirely "out of the woods." But as earnings for the first three months of the current fiscal year show a decided improvement over the corresponding period a year ago, it is logical to presume that the fiscal year to June 30, 1923, will record a similar improvement.

These bonds are now selling at about 56, at which price they yield over 9 per cent. The fact that the continuance of current interest seems reasonably certain, combined with the possibility of eventually receiving the 22¼ per cent of arrears in interest, makes these bonds appear very desirable as a business man's investment, for an individual in a position to assume the risk of an income bond.

New York Railways Company First Real Estate and Refunding 4s of 1942

These bonds have been in default of interest since July 1, 1919, and there is no prospect of a resumption of interest at an early date. The company operates the majority of the surface car lines in the Borough of Manhattan and will unquestionably have to be reorganized before it can get on its feet again. Plans for a reorganization are being discussed at the present time, but nothing definite has yet been accomplished, and it is hardly to be expected that any specific program will be through before the latter part of 1923, at the earliest.

The bonds in question, however, which are quoted in the neighborhood of 32, are secured by a first mortgage on certain real estate in New York City, in addition to the regular railway properties themselves. This real estate, alone, has an assessed valuation, which is equivalent to about 50 cents on the dollar of outstanding First Real Estate & Refunding 4s. Thus, it will be observed, that the real estate equities alone, have a value of about 18 points above the present selling price of the bonds. Under a reorganization, holders of these bonds cannot hope to receive a full reinstatement of their security, but they should eventually "work out" on a much better basis than prevailing prices. For one willing to exercise patience, a purchase of these bonds at the present time, should in the end return a very substantial profit.

Note: This article was written on December 15, and quotations mentioned herein are of that date.

Relief of Traffic Transportation in Growing Cities Without Added Investment

By HAROLD ALMERT
Consulting Engineer, Technical Counsel, Chicago

TRAFFIC statistics of many of our larger growing cities show that the amount of vehicular traffic and number of pedestrians passing a given point in the congested business areas are excessive, causing serious delay to both street cars and vehicles and render crossing of pedestrians unsafe and uncomfortable.

It is obvious that it is the duty of those to whom the furnishing of transportation is intrusted to adequately serve the territory occupied, so long as those facilities can be furnished within financial reason and within physical possibility. Provided also, however, that the public or its representatives by its acts, attitude and habits does not prevent the financing, operation and maintenance of adequate facilities.

From the many studies made of the down-town traffic conditions of Chicago and other cities, those conversant with the facts know that with the present riding habits of the public, and the area of the streets available, the street railway companies are up against an insurmountable physical obstacle in increasing surface and elevated transportation, that no reasonable amount of capital, legislation or condemnation of the present owners and operators will overcome.

Boiled down and stated in simplest words, unless the city can say to the companies, "We will double the down-town street area and outlets to the residential transportation facilities and you double your surface and elevated transportation facilities on those streets," we may as well dismiss hope of increasing the number of cars above ground in the loop during rush periods, and devote ourselves to some other solution of the problem.

At a meeting of the various engineering associations of Chicago, a symposium of the Chicago transportation problem was presented.

It was there stated that Chicago is ten years behind in its transportation facilities, and that we have no agreed upon plan for its development in the future. It was also stated that if we had an acceptable and agreed upon plan, it will take ten years of active construction to catch up with our requirements because of the continual growth of the city. Many other cities are in this same fix.

Most cities have no agreed upon plan for systematic development of their traffic and transportation and even if they do go to work earnestly and conscientiously to develop a plan, it must take several years to design, approve and construct relief measures, and in the meantime conditions become unbearable and city growth retarded.

In the meantime, is there any hope for immediate relief? Is there any way in which our present facilities can be made to better serve the riding public while permanent relief is being provided? In a growing city, to stand still is to go back.

If we admit, as we must, that because of our inability to furnish more streets, the companies cannot add more cars in the down-town district during rush hours, it is obviously not up to the companies.

If it is not up to the companies or the city, then if there is a solution for immediate relief, it must be up to the riding public: the merchants, manufacturers and employers of street car riders.

Can the riding public furnish substantial, immediate relief? My answer is it can.

Will such relief work any hardship or cause any unwarranted sacrifice on the part of the riding public? I believe not.

Will such class inure to the benefit or detriment of any other class other than the riders themselves? Retail stores, restaurants, motion picture theatres and others will be materially benefited, as will also public utilities other than the surface and elevated roads, to some extent.

Will such relief furnished by the riding public be a temporary expedient that should be abandoned the moment adequate new facilities are provided, or will such relief work in and form part of the permanent solution? Properly carried out, it will stimulate growth, materially hold down the future investment in transportation facilities and thereby reduce materially the ultimate cost of transportation.

Will the proposed relief materially reduce the operating cost of the present surface and elevated roads? Not if the present number of cars and headway are maintained.

How much can the riding public increase the capacity in present transportation facilities during the rush periods, or how much can present crowding and congestion be reduced? From nothing to 50 per cent, depending on the degree of cooperation.

The Solution

In entering upon city life we form habits, some good and some bad. Some are of our choosing, some we drift into, and others are thrust upon us by our employers, if working people, or by our customers if we are tradesmen.

The one bad if not vicious habit and which increases the cost and inconvenience of transportation and many other lines of business is that we all want or have to go to work about the same time; we all want or have to ride home from work about the same time, and all want or have to seek recreation in the evening or do our uptown shopping about the same time.

If you analyze this habit, you will find the cause for many unnecessary costs and lack of service in our daily city life.

In the management of one of Chicago's public utilities and a study of its customers, the term "diversity factor" was discovered and coined.

The discovery of that factor and the constant improvement of it enabled that company to build up the largest and best service of its kind in the world, and is principally due to their finding means by which their customers use their facilities more uniformly over many hours per day instead of all using it for about one hour in the evening as in the past.

The term is easily understood and is equally applicable and valuable in almost every walk of life, and is the heart of the solution of immediate relief of our transportation congestion.

It will involve no investment by a city or the transportation companies.

The solution lies in the systematic staggering of business hours of all stores, factories, offices and all other business undertakings in the congested areas so as to flatten out the present morning and evening peaks, and is up to the employers in the districts where traffic congestion exists.

If every man or woman that is going down-town tomorrow would get out on his or her street car corner at the same time, the chances are only a fourth would be able to find room to hang on the first few cars that go by.

On the other hand, if instead of all trying to go down-town at the same time, each by appointment went down at a time best suited to the traction facilities available, everybody would have room to sit or stand without crowding.

The first extreme is what we are unconsciously working toward, and is growing more costly and unnecessary.

The second, which is ideal from a traction operator's standpoint, is equally unnecessary, unless the policy of a seat for every rider is insisted upon.

Between these two extremes, however, lies the solution of immediate substantial relief without expenditures by the city or companies for increased facilities.

Without analyzing this plan, some will promptly say, "It is too radical; no big city has ever attempted it."

Others will say, "Our habits are too deep rooted; the plan can't be made compulsory by City Ordinance; too many people and lines of business are involved; and, therefore, the plan is not practical.

Still others will say, "I will come and go as I choose and don't propose to be dictated to."

Any worth-while improvement of magnitude will meet with such objections and more.

Many who object will not be convinced until the plan is in successful operation, and still others will be hard headed enough to accept the comfort and convenience of the improvement and still refuse to admit the improvement.

If the plan will promptly furnish material relief to a great majority, with little or no inconvenience, and no cost, and at the same time be a material financial benefit to many lines of business, isn't the plan worth while?

All that is necessary is the adoption of the idea by a City Council and the passage of an ordinance or resolution to work it out and make it effective by creating a Traffic Relief Commission composed of a Traffic Expert, one or more members of the City Council, and a member from each of the leading civic and business organizations. This commission to canvass the stores, factories and office buildings in the congested areas by questionnaires as to the

opening and closing hours and the number of car riders in each. With such data collected, the traffic expert can plan a schedule of opening and closing hours with a spread of not to exceed one hour; that is, half an hour earlier or later for any one class, and balancing these, will be able to reduce congestion on the streets and cars 50 per cent during the rush hour periods.

To this must be added the "I WILL" cooperation spirit and the plan will be put over.

In Chicago such a plan will furnish relief equivalent to an expenditure of \$60,000,000 in added transportation facilities, and if made effective, will materially reduce the future requirement for subways and rapid transit facilities.

In addition to its relieving passenger traffic congestion, I have said it will be financially profitable to many lines of business. Let's analyze briefly just one or two to illustrate.

Below is a very recent schedule of the percentage of people served during various hours of the day by one of the large restaurant concerns operating a number of places in the loop.

Hours	Percent	Hours	Percent	Hours	Percent
7:00 a. m.		12 noon	7.06	4:00 p. m.	.69
8:00	6.00	12:30 p. m.	19.84	4:30	2.31
9:00	6.92	1:00	12.69	5:00	3.23
9:30	.92	1:30	7.85	5:30	1.94
10:00	.92	2:00	3.70	6:00	5.89
10:30	.46	2:30	1.85	6:30	6.32
11:00	1.39	3:00	.69	7:00	3.42
11:30	4.71	3:30	.69	7:30	.51
100.00					

It will be observed that from 12 noon to 1 p. m. they serve 32.53 per cent of the total number of patrons served during the day.

If this represents their maximum capacity and the lunch time of their patrons, by staggering business hours, is lengthened out from 11 a. m. to 3 p. m., instead of 12 noon to 2 p. m., they could, with the same investment and same amount of labor, serve two and one-half to three times as many people with no more crowding; or they could serve the present number of people with less help and greater comfort and convenience and less waiting on the part of their patrons.

Many people take their morning and evening meals in the outlying or residential districts, near their homes. Such restaurants and lunch rooms would be benefited by the increased diversity factor and would be able to serve more people with the same investment and labor by having patrons coming in earlier and later instead of all coming in about the same time.

Take the motion picture theatres in the residential districts as another example. At present, if patrons are unable to get to the theatre by 7 p. m., the houses are full and long lines frequently stand waiting from 30 to 45 minutes, jammed together like sardines, which is not only a waste of time, but is unhealthy and exceedingly unpleasant.

Recent observations at one large theatre in the residential district shows the daily patronage divided as follows:

Matinee	10%
7 to 8 p. m.	20%
8 to 9 p. m.	60%
After 9 p. m.	10%
100%	

By staggering business hours as suggested, many patrons would be ready by 6 or 6:30 and others would come much later than at present, so that with the present investment at least one more well attended performance would be given and there would be room for all without waiting or crowding.

So also with other lines of retail stores, more customers can be served with present overhead and labor expense, meaning more profit to the merchant or lower prices to customers, or dividing the benefits between the two.

General offices in the large down-town buildings would derive no direct financial benefit. Taken by groups, having some open and close earlier and others open and close later and staggering the lunch time in the same way, will

greatly benefit their employees and ought to be sufficient compensation. Whether so considered or not, they owe it to their city to cooperate fully, cheerfully and wholeheartedly.

Where office buildings with a miscellaneous lot of tenants are concerned, the office building managers' association can be of material help in working out a schedule, and they, as operators, would receive some benefits.

Take an individual line where a large number of employees are concerned, like the down-town department stores. They could, among themselves, by lot or otherwise, determine and submit an agreed upon schedule of staggering opening and closing hours which would spread the time of arrival and departure of their employees an hour or more over their present practice. Ninety per cent of the sales in department stores of large cities are made between the hours of 11 a. m. and 4 p. m.

When the plan is put into operation, the housewife and shopper will, no doubt, follow suit and will find that by the change occurring in her own home she is able to get downtown to shop earlier or later than at present and will find more room and better attention with more comfort in shopping.

The improvement should not be confined to the Central district; the manufacturing district outside, where employees experience crowding and delays in getting to and from work needs the same staggering of hours and will be benefited. Here, where there are no customers to serve, even greater diversity can be created and in many cases it will be found possible to have different departments of one factory start and stop at different hours without disturbing continuity of manufacturing processes. Here, too, the matter of serving employees with hot lunches in their private lunch rooms will be simplified and less space and less equipment and labor will be required to serve their employees.

The first schedule prepared can hardly be expected to be perfect, but even an imperfect schedule will furnish material relief and if worked on industriously and results carefully observed and checked, only minor changes will have to be made from time to time, and once installed, means should be provided to check results and adherence to the schedules periodically so as to keep it effectively operative, and this can be readily done by the cooperation of the surface and elevated roads with the commission.

I have no doubt but what the adoption of this plan will create a condition in some homes where at present the whole family eats at breakfast together, that the father may have to have breakfast at seven and the son at seven-thirty, and maybe a daughter employed in office work, as late as 8 a. m., making it necessary for the mother or maid to get three individual breakfasts instead of one for all. Even so, there will, no doubt, be an equal number of families who now prepare three separate breakfasts that will, by the adoption of this plan, find that their hours are so changed that all breakfast together.

Even if considered as an emergency measure, it is economically sound and constructive and once put into operation, the public will no more want to go back to our present conditions than they would think of abandoning the skip stops which I had to put into effect as a war measure, or any more than they would think of abandoning the daylight saving plan in summer.

It can be made fully operative at a small cost in almost any large city within 90 days, but will require some courage to do. The plan has been in operation at the Henry Ford plant in Detroit for several years and is entirely successful. Without it they could never get their 50,000 employees to work and away from work without serious delays and discomforts to their employees.

It also means better employees physically and mentally: better fit to serve their employers and the public.

Public Utility Securities from Standpoint of Investor

BY EDWARD B. LEE

Statistician, Electric Bond and Share Company

FROM the investor's standpoint securities of public utility companies should be the most desirable of all corporation securities. They should be the most desirable primarily by reason of the absolutely essential service given by the companies issuing them.

It has been well said that every phase of human existence comes into contact with public utilities. They are so absolutely essential that it is difficult to imagine how the world could now get along should it be deprived of them. If people generally fail to realize how vitally important public utilities are it is due to the services of public utilities having become commonplaces, so energetically, systematically and intelligently have the services been developed and made available for universal use.

Because of their essential character the public utilities are supervised by governmental bodies, whose function it is to see that the companies give the best possible service at rates assuring reasonable returns on property values. This factor adds materially to the strength and desirability of the securities as investments.

By the term public utilities, as it is now understood, is meant the electric power and light, electric railway, gas, and telephone and telegraph industries.

Magnitude of the Utility Industry

These industries are now not only among the most essential, but among the largest of all industries in the United States. The electric power and light industry alone has an investment of probably \$5,000,000,000, the electric railway industry an investment of at least \$5,000,000,000, the gas industry an investment of approximately \$3,000,000,000, and the telephone and telegraph industries a combined investment of about \$3,000,000,000, making a total investment of approximately \$16,000,000,000 for the four industries.

One of the largest industries in the country is that of iron and steel, but according to the 1919 Census of Manufacturers of the United States the aggregate capital invested in the country's iron and steel works, including rolling mills and blast furnaces, was in that year less than \$3,600,000,000. Thus the electric power and light industry and the electric railway industry are each of greater importance from a capital standpoint than the iron and steel industry, which stands at the head of all manufacturing industries.

Earnings of the utilities also run into big figures, although in proportion to their invested capital their earnings, unlike those of manufacturing and mercantile industries, are relatively very low. It is estimated that the electric power and light industry now has annual gross earnings of approximately \$1,000,000,000, and the electric railway industry earnings of about the same amount, while the earnings of gas companies are probably not far from \$800,000,000 and those of the telephone and telegraph companies together about \$1,500,000,000. This is a total of \$4,300,000,000.

Creation and Rapid Development

Despite the universality of public utilities and the large amount of capital invested in them, these industries have been in existence only a comparatively few years. They are among our most modern business enterprises. The beginning of the electric power and light industry dates only from 1879. The first practical electric railway in the United States began operation as recently as 1888, and the first telephone company began business in 1878. Artificial gas has been used for illuminating purposes since 1816, although the gas industry in its modern aspect is only a few decades old. The first commercially successful telegraph line in the world was opened for business in 1844, but the great expansion in the business took place a number of years later. Hence a

EXAMINATIONS AND REPORTS ON PUBLIC UTILITY PROPERTIES

OUR WIDE EXPERIENCE IN THIS FIELD COVERS ALSO VALUATIONS FOR REFINANCING AND OTHER PURPOSES, AND THE HANDLING OF RATE RESEARCH CASES, ALIKE FOR PROPERTIES UNDER OUR MANAGEMENT AND FOR OTHER PUBLIC UTILITY COMPANIES.

DAY & ZIMMERMANN

INCORPORATED

ENGINEERS

NEW YORK PHILADELPHIA CHICAGO

large proportion of those who use their services have seen the beginnings of the electric power and light, electric railway and telephone industries and have witnessed the major development in the gas and telegraph industries.

The greatest progress in all of these industries, with the exception of that of the telegraph, has been made during the last two decades. For example, the electric power and light industry in 1902, according to the United States Census, had an investment of only about \$628,000,000, as contrasted with its present investment of approximately \$5,000,000,000. The gross earnings of the electric power and light companies in 1902 aggregated approximately \$86,000,000, as contrasted with present annual gross earnings of approximately \$1,000,000,000. In 1902 the output of the electric generating stations was about 2,508,000,000 kilowatt hours as compared with an output of about 45,000,000,000 kilowatt hours during the present year.

The marvelous expansion that has taken place during the last twenty years in the electric power and light industry (practically doubling itself every five years) has been due in part of course to the growth in population, but it has been due mostly to the steadily increasing uses to which electric energy has been put by industries of all kinds. Beginning as simply a lighting business the electric generating and distributing industry has been so expanded into a power business that there are indeed few manufacturing, producing and distributing agencies that do not now make use of electrical energy in one way or another. The ability to serve these many industries has been due largely to the development of the high tension, long distance transmission systems, making it possible to generate power at the most desirable points and then to send this power anywhere to the point of consumption.

The great expansion which has taken place in the gas industry, despite the loss from illuminating business, has been due to the many industrial uses found for gas. The

telephone industry has greatly grown by reason in large part of the great expansion in modern industry, which in turn has been made possible to so large an extent by the development in the uses of electric power. These factors have had much to do with the growth of cities and the resulting increase in the electric railway industry.

Growth In Number of Investors

From their beginning public utility securities have been viewed favorably by an ever increasing number of investors. If this had not been true it would have been impossible for the utilities in so relatively short a time to have acquired an aggregate investment in the neighborhood of \$16,000,000,000. At first the investors in public utility securities naturally were restricted to a relatively few people, usually resident in the localities where the utilities operated, but as the companies progressed and the volume of their securities grew and they became better known, the large bond and stock distributing houses became more and more interested in them and in this way a rapidly increasing number of people was attracted to this field of investment. It is a tribute to the high investment qualities of public utility bonds particularly to be able to say that some of the oldest, largest and most conservative bond houses of the country have been distributors of this class of security for more than twenty years.

As the utilities year by year more clearly demonstrated their stability and earning power, savings banks and insurance companies also became interested in their securities and in this way a large part of the country's population became investors in them indirectly. The life insurance companies have since become such large buyers of these securities that it is estimated that of the more than six billion dollars of assets of life insurance companies more than two billions are invested in public utility securities. (One of the largest insurance companies in the country, while a large owner of public utility bonds, owns no industrial securities, although it is not prohibited by law from buying them.)

Customer-Ownership Campaigns

The increase in the number of investors in public utility securities has received its greatest impetus, however, through the customer-ownership campaigns that have been conducted by the utilities in many sections of the country. It may well be said that through these campaigns many of the utilities have become publicly owned, so widespread has been the distribution of their stock. Among the many examples of the success of the customer-ownership campaign may be cited an electric company operating in one of the largest cities which now has more than 25,000 stockholders of whom approximately 95 per cent are customers. Another company operating one of the largest electric transmission systems in the country and serving an extensive district has made sales to approximately 20,000 customers and employees. In many cases the preferred stock of public utility companies has been so widely distributed, as a result largely of the customer-ownership campaigns, that the average holdings are under ten shares, and in some cases under five shares, per stockholder.

Practically no new industry ever gets through its first few years without failures. The utility companies are no exception. In the pioneer days many investors probably lost a considerable part of the money put into the enterprises. The companies, however, after years of experimentation both in respect to property, in methods of operation and in financing plans, gradually built themselves up and each year more nearly standardized their properties and operating methods, eliminated senseless competition, planned for great expansion and more clearly arranged their financial structures, all of which resulted in better investment standards and better credit.

Improvement In Public Relations

The last ten years have been without question the most important period in the history of utilities and the investor in utility securities may well be satisfied with the progress made. By reason of the demagogic outcry against them in some sections and the war conditions under which they were forced to operate and finance their urgent needs, the utilities met with greater difficulties and at the same time accomplished bigger things than ever before. It was not so much a period of invention and of property expansion although there were great accomplishments in these lines, as it was one of painstaking effort to better public relations and to evolve improved financial standards and policies. One most important fact that came to be realized by a great many people during the momentous war and post-war days, when public utility service meant so much to industry, was that the public after all is not so greatly interested in getting its utility service at a cent or more less as it is in getting efficient service at all times.

The public appreciated all of these things and as a result there never has been so good an understanding between the utilities and the public and never so close a relationship between the utilities and the investors as at present.

Interest and Dividend Records

Despite the physical and financial handicaps under which they operated during the war and post-war years the utility companies for the most part emerged from this period with records of interest and dividend obligations paid in full. There is no instance of any company doing an exclusively electric power and light business having failed to meet its interest obligations during this time, and only a very small number indeed that failed to pay their established dividends regularly. In the gas industry there were a few instances in which dividends were not paid. In the railway industry there were a number of interest defaults. Among the companies doing both an electric and gas business there were a few cases of dividends going unpaid, as there were also among those companies operating combinations of electric, gas and railway properties. These interest defaults and failures to pay dividends were due, as is so well known, to the rapid increase in the costs of labor and materials and the inability

to obtain quickly enough the necessary relief from governmental bodies in the form of increased rates for service.

But even if there were some failures to pay interest and dividends among certain classes of utilities, their record as a whole is a phenomenal one by comparison with that of industrial companies. And it is both advisable and interesting for investors to contrast the earnings and interest and dividends paid by public utilities with those of industrial corporations.

Contrast With Industrials

Earnings of industrial corporations have always been subject to marked fluctuations, but in no previous period of our history have the earnings of so many of the industrials had such record high earnings to be followed by such record low earnings as during the last five or six years. The unprecedented industrial activity during the years of the World War and the two years following the ending of hostilities resulted in unusually large profits for the industrials, but this condition later gave way to a period of such industrial stagnation and decreased earnings as to result in heavy losses for holders of industrial securities.

Practically all companies engaged in manufacturing or distributing commodities were affected by the industrial depression. This depression reached its climax during the year 1921 during which a larger number of industrial corporations than ever before in our history failed to meet dividend obligations. During that year a total of 324 companies either omitted entirely or deferred the payment of dividends on their stock or else reduced the rate of payments. Many companies also defaulted in their interest obligations and were forced into receivership.

The tremendous swing in the range of earnings of the industries during the last ten years, terminating in the record low earnings for the years 1920 and 1921 and resulting in such heavy losses in dividends and interest to thousands of investors, is illustrated by a composite chart of earnings of seven of the leading industrial corporations of the country. These corporations, which were selected because they represent fundamental and diversified industries and because they are among the largest concerns of their kind and are old, seasoned corporations with records of substantial earnings and dividend payments running back many years, are as follows: American Agricultural Chemical Company, American Can Company, American Locomotive Company, American Sugar Refining Company, American Woolen Company, Central Leather Company and Republic Iron and Steel Company.

Fluctuations in Industrial Earnings

During the calendar year 1914, before industry in the United States was stimulated by reason of the World War, the aggregate balance available for dividends of these seven companies was \$20,354,953. Owing to the great industrial activity and the high prices resulting from the war, the aggregate balance available for dividends for the year 1917 rose to the record high figure of \$70,234,008. During the calendar year 1919 this balance had been reduced to \$45,334,213. For the calendar year 1920 instead of a surplus for dividends there was an aggregate deficit after all charges, including inventory losses, of \$17,342,098. For the calendar year 1921 there was once more a deficit, the amount being \$3,942,539. The average balance available for dividends for these seven companies reached the high figure of \$10,033,430 during the year 1917 and reached the low record figure of \$2,477,442 in the red during the year 1920.

As a contrast to this interesting but disturbing performance of industrial corporations it is interesting to note the combined record of the seven public utility companies which were selected as typical and representative of companies of various size and character operating in widely different sections of the country and supplying diversified service. These companies are as follows: Pacific Gas & Electric Company, Southern California Edison Company, Commonwealth Edison Company, Scranton Electric Company, Pacific Power & Light Company, Carolina Power & Light Company and Portland (Oregon) Gas & Coke Company.

These companies, taken as a whole, show almost an unbroken line of gradually increasing balances for dividends. During the year 1914 the aggregate balance available for dividends of these seven public utilities was \$8,971,100, and for the year 1915 this balance was \$11,094,342. During the year 1917 when the industrials were making such big earnings the aggregate balance available for dividends of these public utilities was \$9,772,228, a figure only slightly less than that of the previous year. From that time on this balance increased until for the year 1920 it was \$14,043,982, as contrasted with the deficit of \$17,342,098 for the seven industrial corporations, and for the year 1921 this balance was \$16,026,147, as compared with the deficit of \$3,942,539 for the seven industrials.

It is not surprising in view of these typical performances of earnings of industrials and public utilities that the utilities have much the better history in the matter of meeting interest and dividend obligations and that they have emerged from the war period stronger than ever.

Effect of Competition for Capital

The ability to show earnings and to meet interest and dividend obligations has a quick and important effect on credit, and it is interesting to note how these two classes of corporations—industrials and public utilities—have fared in the matter of credit from the war days to the present time.

During the years when the industrial corporations were running along with big earnings and the utility companies were just about holding their own, the credit standing of the two groups of companies naturally varied greatly. It will be recalled that while this country was engaged in the World War the issuance of securities was strictly limited by the Federal Government. With the ending of hostilities there naturally was a great rush on the part of both corporations and governments to issue securities for obtaining new capital with which to meet the cost of long deferred extensions and improvements. This rush for capital had a cumulative effect on money costs with the result that during the year 1920 corporations of all kinds, as well as governments, were obliged to pay more to finance their requirements than they had for several decades.

The insufficient credit and the resulting competition for capital naturally brought about a substantial increase in the yields on interest-bearing securities. All classes of securities were affected. Even our own Federal Government issued Certificates of Indebtedness bearing a rate of 6%, the highest interest rate on any obligation issued by the Federal Government since the Civil War. Liberty Bonds and Victory Notes, despite their freedom from taxation, sold at prices where the yields ran all the way to 6.60%. During 1920 the average price of 40 representative bonds issued by railroads, industrials and public utilities listed on the New York Stock Exchange fell to 65.57, which price was nearly 30% lower than the average high price of 92.31 recorded in 1913. These average bond prices are indicative of the trend of the cost of new money, as of necessity new securities can be sold only in competition with issues already outstanding.

During the early part of 1921 financial conditions showed little improvement over those of 1920, but by mid-year the greater amount of capital made available by the curtailment of industry and the forced liquidation of loans began to bring about easier money conditions. This new trend became more and more emphasized, with prices of securities gradually advancing and yields decreasing, until in December of 1921 corporations and governments, generally speaking, found it possible to finance their needs at lower costs than had prevailed since 1919. This trend of the cost of money continued down to November of this year.

During those periods of restricted capital the matter of obtaining funds for financing was not so much a matter of credit as it was one of supply. Governments and corporations of the soundest credit were practically unable to obtain all the capital desired. And when capital was obtained high prices were paid, prices far above the means of utilities; and that is why public utilities were for some time practically barred from getting new capital.

Industrials Paid High For Capital

Industrial corporations needing large amounts of new capital for property extensions were able to pay the price, as all that was necessary for them to do was to increase the prices of their products to a public that seemingly could not get enough goods with which to satisfy its demands, no matter how high the cost. Public utilities, on the other hand, were restricted in their financing. Their rates for service were fixed by commissions and were not such as to permit of the paying of high prices for capital. And so, during 1919 and 1920 and a part of 1921, only the most urgent financial needs of public utilities were provided for and it was not until the latter half of 1921 that there was any considerable amount of financing by these companies.

These matters are now referred to as they have a direct bearing on the present investment standing of public utilities. Had the utilities been able to compete successfully for new capital during the time of high money rates they would today have large amounts of capital tied up in properties built at maximum prices and would have outstanding a great volume of high interest bearing securities. Of course the utilities were obliged to undertake some new construction at the high prices and to do some financing at maximum rates, but not nearly to the extent of industrial corporations. For the most part the utilities were obliged to curtail extensions during the period of highest prices, and this fact proved to be a blessing in disguise.

Contrasting Yields of Securities

It is interesting to note the difference in the yields on securities sold by the industrials and utilities during the years 1920 and 1921 and 1922 to date, as indicated by the yields obtained by investors on new issues of securities. During the calendar year 1920 there were 133 issues of securities of \$1,000,000 or more each of industrial corporations offered in the market by investment dealers at prices to yield an average rate of return to the investor of 7.57%. The number of public utility issues of \$1,000,000 or more each offered during the same year was 71 and the average yield was 7.68%.

As already stated, conditions in the investment market were much different during 1921, although the change did not become apparent until near the close of the first six months. During the first half of 1921 there were 88 issues, each of \$1,000,000 or more, of industrial companies offered at prices to yield an average of 7.87% and there were 53 issues, each of \$1,000,000 or more, of public utility securities offered at prices to yield an average of 7.76%. The year 1921 was a disastrous one for the industrials and, with the volume of business drastically reduced, few of them needed new capital for expansion. They did need, however, funds with which to meet maturing obligations and to pay off bank loans, and for this financial accommodation the industrials were obliged to pay even during the latter half of the year practically as high rates as at any time during the two previous years. With the public utilities it was different and during the second half of the year 1921 they were able to finance their requirements on a more favorable basis than for several years. During the last half of 1921 there were 77 issues of industrial companies offered at prices to yield an average of 7.80% and 70 issues of public utility securities were offered at prices to yield an average of 7.19%.

Yields on 1922 Securities

During the period from January 1, 1922, to November 30, 1922, there was a tremendous outpouring of securities of all kinds accompanied by higher prices and lower yields than had prevailed for several years. There were 218 issues of industrial companies offered at prices to yield an average of 6.86%, and 159 issues of public utilities offered at prices to yield an average of 6.45%.

A curve of the average yields on new issues of securities at their offering prices to the public shows that for public utilities the high point for all time was reached in the month of February, 1921, with an average yield of 8.23%. From that high point the average yield gradually declined

during the year until the average yield on all public utility issues offered during December, 1921, was down to 6.70%. During the current year there was a continuance of the movement and in October the average yield was down to 6.12%, but in November it was up to 6.28%. (The monthly circular descriptive of general offerings of bonds of one of the largest bond houses shows a curve somewhat different from that indicated for all new issues of public utility securities. The average yields on public utility bonds only at the prices given on these circulars over a series of years show that the record high yield of 7.70% was on July 1, 1921. From that date the average yield declined gradually until on the circular of October 1, 1922, it was 5.71%, while somewhat lower prices brought the average yield to 5.82% on each of the circulars of November 1, 1922, and December 1, 1922.)

With a return of better business conditions the securities of companies likewise met with better markets and from a high yield of 8.76% for all new issues of \$1,000,000 or more offered during the month of March, 1921, there was a gradual lowering in yield until for the month of December, 1921, it was 7.48%, while for October, 1922, it was down to 6.27%, but in November it was up to 6.61%.

Improvement in Utility Financing

It is to be noted that after all the trying times the public utilities had experienced and the inability to finance their requirements, except at exorbitant rates of interest, they eventually took the lead from industrials and beginning with March, 1921, and continuing until the present time they have been able to market their securities on a lower average yield basis. During the remarkable market for securities of all kinds that has existed during a large part of the past year, the public utilities have issued a greater number of securities than ever before and have placed these with the public at what may be considered as satisfactory prices.

As in past years there has been a wide variety of public utility securities placed on the market during the past year and the investor has had no difficulty in choosing the security best suited to his individual needs. There have been securities of individual companies operating one or more kinds of property and securities of financing and holding companies controlling properties operating one or more kinds of service. There have been mortgage bonds of the highest quality, mortgage bonds of second-grade quality, debenture bonds, and preferred and common stocks. All of these securities have different elements of strength and all must be individually considered. A particularly gratifying feature for utilities in this change in the financial markets is that it has permitted the companies again to market preferred stock. As is so well known, preferred stock plays a large part in the financial scheme of most utilities and when markets are such that this class of security cannot be sold, the carrying out of financing plans of the companies is greatly handicapped.

High Standing of Electric Securities

By reason of their exceptionally high character the securities of electric power and light companies taken as a group, naturally head the list of public utility securities, as these are the companies that have had no defaults in the payment of interest and very few curtailments in dividend payments during the last ten years. No other class of corporation securities can make a better showing over the last decade than those of the electric power and light industry. Securities of the Bell Telephone System and of those larger and more conservative so-called independent telephone companies also have a high investment standing. Speaking in most general terms, securities of the gas companies must rank below those of electric power and light companies, while those of the electric railway companies have a less favorable investment rating. Fortunately the bad operating conditions that overtook the gas companies were of short duration, with the result that their securities did not suffer greatly in investment standing. Fortunately, also, the securities of the electric railways are again being restored to

favor, owing to the general realization of the fact that the companies operating this essential service must receive just treatment.

Emphasis must be placed upon the statement that this investment classification is most general. Those who are familiar with the investment field know that there are gas companies and electric railway companies whose securities occupy as high an investment position as any corporation securities and that there are securities of individual electric power and light companies whose investment rating is low. Discrimination on the part of the investor is always necessary.

Future Expansion of Utilities

Although the expansion of the utilities during the relatively short period of their existence has been phenomenal, it must not be thought that their growth is nearing an end. They have a much greater future before them. Particularly is this true of the electric power and light industry. Let no one think that the business field of the electric companies has by any means approached the saturation point and that from now on there will be only a plodding development.

The electric power and light industry has not much more than begun its task of electrifying the country. Many years must necessarily elapse before all homes are electrified and before industries now operating by power other than that generated at central stations are all supplied by the electric companies, and meanwhile a great number of new uses for electrical power will be steadily discovered. The electric industry's greatest development will be in the years to come. This means that many millions of dollars must be annually expended in the building and extension of electric properties and that investors in the years to come will have a far greater number of opportunities for investing in electric power and light company securities.

Present Favorable Investment Position

Public utilities never occupied so strong a position and their securities never held so high an investment standing as at the present time. More than ever before the public recognizes that utilities are necessary institutions which must receive fair treatment. More than ever before regulating commissions and other governmental bodies realize that their duties are twofold: they must not only protect the public and see that adequate service at fair rates is provided, but they must see to it that the utilities are given that necessary financial latitude without which they cannot carry out financial plans essential to the continuous growth of the utilities. More than ever before the public utilities themselves recognize that they have definite duties to perform both for the public they serve and for those who have invested their money in their securities.

With this increasing realization of rights and of duties on the part of the public, the governmental bodies and the utilities themselves, public utility securities become steadily more desirable from the standpoint of the investor.

Safeguarding Investments

By A. J. BEMIS

Western Manager Day & Zimmermann, Inc., Engineers

A CONSULTING Engineering Organization, because it includes specialists in widely diversified branches of Engineering and Management, is, through its professional service, enabled to afford protection alike to Banker and Investor in safeguarding investments.

Through investigations and reports encompassing rigorous analysis of every phase of the physical, financial and managerial aspects of a property, a vehicle is provided which forms a valuable basis for financial arrangements in the establishment or expansion of public utility and industrial enterprises, their purchase or sale, reorganization, consolidation or liquidation, rehabilitation and improvement of operation.

The Meaning to the Banker and Investor

In any financing, the responsibility of the Banker is such that both in order to safeguard the Investor and to assure the permanent success of the enterprise, he must be possessed of all of the facts relating to the project in hand. When related to an existing enterprise, such facts must not be limited to an appraisal and audit of the property. Experience has proved that when undertaken by Engineers of reputation, an Engineering report involving all phases of the company's business must be given equal consideration by the Banker. Indeed in many instances such report has proved the determining factor in the success of the enterprise.

In the broad sense, the scope covered in such professional work by the Engineer may be divided into two fields—that relating to Public Utilities and that to Industrials.

As Related to Public Utilities

With the development that has taken place in the United States since the establishment in 1882 of the first central generating station—the historic 12½ Kilowatt capacity Hydro-Electric Plant at Appleton, Wisconsin—the field of Public Utilities has expanded as an industry, probably at a greater rate than any other activity in the country's history. With this expansion have come problems, the complexities of which were undreamed of by the pioneers. The scope of this article does not permit even a reference to that phase which relates to physical expansion.

On the financial side, the creation of the Public Service Commissions in the several states, dating back some twenty years, has marked a new epoch alike in methods of financing, stability of investment, company policy and public relations. The contribution which the Consulting Engineer has made and will continue to make, based upon familiarity and intimate experience in the construction, operation, management and financing of many public utility properties in many states has been found applicable and of invaluable assistance to the Banker in his problems relating to the creation or expansion of the financial structure of public utility properties.

An Engineering organization is accustomed to perform such service as this for the Banker in accordance in general with the following methods: An examination of the physical property to determine adequacy, condition of maintenance and economy of operation; a complete investigation of the corporate structure of the company or companies under consideration, with suggestions as to a simplification of such structure; a detailed analysis of the franchises and ordinances under which the company is doing business; a study of the rates and contracts effective, from the standpoint of advising as to the reasonableness of the rates as a whole and as between various classes of customers; a complete inventory and appraisal of the property of the company or companies as a going concern, giving consideration in every instance to the practice of the regulatory bodies having jurisdiction, which in itself establishes the equities in the plant and property; an audit of the balance sheet with comments and suggestions which furnish the Client with a clear and concise picture of the financial position of the company, together with a restatement of the balance sheet giving effect to the plan of refinancing proposed; a complete review of past earnings and expenses of the corporation, setting forth the important factors responsible for net results and the effect of the elimination of certain conditions upon the net earnings, together with suggestions and recommendations as to the manner in which the general situation can be improved from the standpoint of the elimination of waste and recommending changes which will bring about lower operating costs; also a new business study of the territory served, showing the additional revenue possible and the capital requirements necessary to meet the demands of both existing and future customers.

It is obvious that the purpose of all of the foregoing is to place the Banker and Investor in position to be enabled to exercise a business judgment as to the soundness of the enterprise which is projected.

A multitude of instances have proved that without such

Engineering report the principals are ill advised in taking steps which involve a considerable expenditure of funds.

Furthermore, it is well nigh impossible to determine the value of any enterprise without having for consideration all the facts which make up such an investigation.

The soundness and permanence of many an enterprise are measures of the initial judgment exercised by the Engineer in advising both the Banker and the Investor.

As Related to Industrials

Much that has been said of Public Utilities is applicable in general to Industrials. The greater variety in fields of operation by Industrials often renders their banking problems rather more complex than those of the Utilities. Some explanation is permissible of some usual practices in negotiating loans and arranging for financing.

Manufacturers desiring funds to carry on current operations usually borrow from their bank on their note, secured as a rule by their current receivables and inventory, with sometimes additional collateral of a marketable nature. Such loans as a general rule are made by the banker without investigation other than that made by an official of the bank who may or may not visit the manufacturer's plant. Usually a statement is submitted which follows a certain prescribed form, the banker basing his judgment on his knowledge of the manufacturer's reputation and integrity as well as his current financial position.

Such loans are intended to be paid off from the current operations of the business.

When, however, a manufacturer is in the market for funds for the expansion of his business, enlargement of his plant, or the acquisition of permanent additional working capital, such funds must be raised by the issuance either of stock, long-term notes or mortgage bonds. If stock, such an issue would be sold by the manufacturer to his existing stockholders or possibly to a firm of investment bankers that are familiar with his business; or the stock might be sold by himself, if the business bears a sufficiently wide reputation to insure success.

If the financing takes the form of long-term notes or mortgage bonds, then such securities are usually sold to an investment banker for resale to the public. Numerous methods are now pursued both by manufacturers and investment bankers in the flotation of such issues.

Whether it be a stock issue, note issue or mortgage bond issue, the necessity for a careful investigation of the issuing company's condition, history, manufacturing methods and prospects is becoming increasingly apparent.

Many industrial issues have in the past and are now being sold to the public on the basis of an existing or newly made appraisal of the company's physical assets. This appraisal may have been made by one of the appraisal companies or by an Engineering firm having an appraisal department. It is usually based upon the cost to reproduce the plant new at current prices, less an estimated amount covering accrued depreciation. Such an appraisal in reality is made for the purpose of placing insurance, and its use for another purpose is an excellent example of the practice referred to.

There is usually an audit available, prepared by one of the public accounting firms and covering a period of five to ten years. This will give a record of the company's earnings over the period covered and furnish a certified copy of a current balance sheet. The banker, fortified with the appraisal and audit and with his own knowledge of the company creating the issue, will then decide whether or not he is willing to market the securities.

One of the greatest objections to the above procedure is that the appraisal, which is based entirely on the reproduction cost new of the company's plant, may not take into consideration the fact that the buildings and equipment, although well maintained and in good operating condition, may not be of a sufficiently modern type to continue to meet competition. In other words, the depreciated or sound value of the plant may be perfectly satisfactory for the placing of insurance, but it may be im-

possible for the company to continue to earn a fair return on this value.

After a period of time has elapsed and the company finds itself unable to meet the interest charges on its bonds and notes, the issuing banker is confronted with the necessity possibly of taking over the operation of a business in order to protect the security holders to whom he sold the issue; or in some cases, the necessity of purchasing the securities back at a considerable loss; or in an extreme case, the necessity of a receivership.

Many banking firms in the last few years have evolved various methods to safeguard the securities they issue. Various funds have been provided designated guarantee funds, reserve funds, stabilizing funds, etc., whose function is to safeguard an investor from loss due to the failure of the issuing company to pay its interest. However, such plans are possible only where there is an association of interest between the company issuing the securities and the banker marketing them. In other words, the banker must have some control over the issuing corporation. Since this in most cases is not possible, the investor purchasing securities other than those guaranteed as to interest and principal must rely on the integrity of his banker. By the same token the banker to safeguard himself has found it increasingly difficult to rely entirely upon his own judgment as to what constitutes a safe security.

The valuation or appraisal together with an audit, the two made by different firms and without attention given to the company's ability to earn a fair return on the capital invested, are not to be taken as sufficient safeguards for the investor.

The industrial report of today as it relates to the issuance of securities, should comprise—

- (a) A Valuation of the Property.
- (b) A Study of the Management and Executive Personnel.
- (c) An Analysis of Products, Sales Policy and Available Markets.
- (d) An Investigation of Manufacturing Facilities and Methods.
- (e) A Study of Financial Condition and Capital Requirements by means of audits or reports covering a period of years.

In other words such report constitutes a consolidated service by trained Engineers involving a thorough analysis of the entire business by experts in the various branches, which will furnish the banker with as accurate a picture as is possible to secure.

In the recent severe industrial depression, one of the chief causes for the unsound position in which many industrials found themselves, was due to the rapid depreciation in the values of inventory. A second cause was the result of over expansion of plant facilities brought about by the War. It can readily be understood of what small value an appraisal would be as a basis for the issuance of securities, if the issuing company had twice as much plant as it needed for the regular conduct of its business and was compelled to pay interest charges on idle plant, unless such fact is brought out. Few appraisal companies bring out such facts unless specifically asked to do so.

Referring briefly to the issuance of junior securities. In increasing amounts, stocks, both preferred and common, are being issued by corporations. Although stocks are not ordinarily considered investments in the exact sense of the term, because a stockholder is a partner and as such much take the risks of partnership, yet many preferred stocks, through long years of operation and established reputations as dividend earners, are rapidly attaining the dignity of investments.

As stock issues become more general, the necessity for careful investigation of issuing companies becomes increasingly desirable, and the features so strongly stressed in an investigation looking to the issuance of bonds become more difficult of investigation. In the case of stock issuance, dividends are dependent upon earnings after all charges

have been deducted; in such cases mere physical value is of less importance than earning ability.

The Banker, examining a report with a view to financing, whether along public utility lines or industrial, is concerned primarily with a complete picture of the situation, one that coordinates and reviews all of the data available. It is the function of the Engineering report to present such a picture, one in which significance is attached alike to the practical, the strictly technical, the economic and the financial phases of each problem in hand.

Relative Security in Investments

By RUSSELL ROBB

Senior Vice-Pres., Stone & Webster, Inc.

THERE is often more thought given to the kind of enterprise on which a security is issued than to the nature of the security itself. There seem to be fashions in investment. At one time the fashion is railroads, sometimes it is tractions, sometimes light and power, sometimes real estate, and if the fashion gets into full swing there is less and less analysis of the kind of security that is being issued and of the basis of its security. There are, however, principles that apply to all sequences of securities and it is helpful to think these principles out.

A banker who loans \$10,000 on \$12,000 worth of collateral will not consider the \$2,000 margin a suitable basis for a further loan. The borrower will figure that he owns a \$2,000 "equity," but it will not occur to him to attempt to pledge this equity somewhere else to secure another loan of say \$1,500, leaving him with only \$500 of his own money tied up in the purchase of the original \$12,000 worth of collateral.

It is curious that a result that is so obvious in the foregoing example seems often to be unrecognized when a similar transaction is accomplished by means of indentures and shares represented by seeming pieces of property like bonds and stock certificates.

Fortunately the time of pyramided companies, each one based on the equity of the preceding one, has largely gone by, but there is often still a lack of realization of where one's loan or investment stands in the scale of relative security. There is a tendency to drop back on simple empirical rules like "The earnings must be twice my bond interest," "The market value of the collateral must be twenty per cent more than my loan," "The earnings applicable to my preferred stock dividends must be two or three times the amount of the dividends." Rules like these are, however, a poor substitute for a real analysis because one must have also such information as the kind of earnings that are twice the bond interest, whether the market value of collateral is speculative value or not, how fast the earnings can disappear that are now two or three times the preferred stock dividends.

Besides investors there are always optimistic speculators, those who wish to place their money on the narrowest margin possible so that their gains may be multiplied the greatest number of times. They are attracted more by possibilities than by probabilities. They have their place and their value too in the accomplishment of things, but if one is a lender or an investor he must be sure that he is not taking part of the risk that belongs to the speculator who in his enthusiasm to work on narrow margins sets up financial structures that shift a part of the risk that should be his own. There have been cases of this kind in the public utility field. Holding companies have been built upon holding companies, so that in the end the growth of the equity could come to the equity holder who had risked the slightest of margins. It was unfortunate because it erected a prejudice against the holding company idea when the trouble was with the way the idea was used and not in the principle itself. Holding companies may be organized on perfectly sound lines and be most useful in development, but to prevent investors forming prejudicial rules in regard to

them they must be capable of analysis and their structure must be made plain.

It is interesting to consider what happens in the cases where one company is built upon the equity of another.

If a company has no debt but the property is all represented by one class of stock any variation in the value of the property affects the value of the stock in the same proportion. To invent a convenient term we may say that in this case the "factor of variability" of the stock is 1. If the net earnings of the property increase 10 per cent the value of the stock, if based on earning power, also increases 10 per cent. If the net earnings decrease 10 per cent the value of the stock decreases 10 per cent.

If one-half the value of a property is represented by bonds or other prior lien, and one-half by stock, then an increase in net earnings of 10 per cent without increase in investment, increases the amount available for the stock or equity 20 per cent, since all increase goes to the equity portion of the property, and similarly a decrease of 10 per cent in net earnings decreases the value of the equity 20 per cent. In other words, in this case there is a factor of variability in the stock of 2. Its value varies twice as fast as the value of the whole property.

In the same way, if one-quarter the value of a property is represented by stock, this factor of variability will be 4.

Suppose now that this stock that represents one-quarter the value of a property is made the basis for a holding company, a new company is formed whose whole property is this stock and it buys this by raising three-quarters of the purchase price by the sale of bonds or preferred stock and one-quarter by the sale of common stock. Thus in this holding company its own common stock or equity part represents one-quarter the value of the holding company, and the factor of variability of this holding company stock, considering the holding company value, is 4, but the value of the holding company as a whole has a factor of variability of 4, when the underlying property is considered, so that the stock or equity of this holding company, with the underlying property as a basis, has a factor of variability of 4×4 , or 16.

Assume that value of original property is.....	\$1,000,000
Then value of equity of underlying company is.....	250,000
Total value of holding company is.....	250,000
Value of equity of holding company is.....	62,500
1% variation in original property is.....	10,000
\$10,000 is 4% of equity of underlying company	
and is 4% of the whole of the holding company.	
It is 16% of the equity of the holding company.	

In this case taken here, an increase in the net earnings of the underlying company of $6\frac{1}{4}$ per cent, if no new investment were needed, would double the value of the equity of the holding company and a decrease of $6\frac{1}{4}$ per cent would wipe out all the value of this equity.

This so-called "factor of variability" may be very large and still the security may be a perfectly fair risk, but a large "factor of variability" exaggerates the variations in value in a property. Any factor over 1 means trading on a margin, though this margin may be very large and safe, but the larger the factor the smaller the margin.

Where one has the benefit of increases as well as the penalties of decreases, investment in securities with high "factors of variability" may be justifiable, but when one suffers penalties, if they come, yet does not benefit from increases, as is the case when one loans money with high factored securities as collateral, he should know well whether the margin is likely to disappear eight or ten times more quickly in one case than in another.

"Factors of variability" are not infrequently very much greater than even 16. They sometimes approach in risk the 2 per cent or 1 per cent margin of the bucket shop. That is, the factors approach 50 or 100. This is a fine gamble for the equity holder, but is not so good for the bank or the holder of the securities just ahead of the equity that has a factor of 50 or 100. With a factor of 100, 3 per cent increase in the value of the original property increases the ultimate equity 300 per cent, a fine profit for the equity

holder; and, moreover, if the value of the original property decreases 3 per cent, the equity holder loses only 100 per cent, because in a corporation with the limited liability he does not have to make up loss beyond the value of his stock. Such an equity holder thus has a most desirable bet. If the chances of 3 per cent gain or 3 per cent loss should be even, the equity holder is getting odds three times too good at the risk of the bank who loaned him money on his stock or at the risk of the security holder just senior to him. It is "heads he wins three," "tails he loses one."

The only reason such a set-up is at all possible is because in a world of growing business equities increase. We have got to believing that things move only one way and that really the probability for increases is much greater than for decreases. This may be so, and yet there is always some point where the odds represent the real probability, and if one goes beyond this, he is foolishly accepting a risk for which there is no proportionate profit in prospect.

The equity holder is always an optimist. He sees all the chances for increased value and very few of the menaces. Growth of population, increased business, improvement in the art, all loom large to him. He ignores increased costs of operation without increased rates. He forgets the steady increase in the rate of taxation. He forgets changes in basic conditions, wars and other calamities. But we should never forget that the thin equities are not necessarily due to bad judgment on the part of the equity holder. They are sometimes due to his good and calculating judgment. It is the man who is furnishing money that is short-sighted. The equity holder may have his eyes wide open and see that he may stand to win \$1,000 for each \$100 that he stands to lose.

The optimism of the one who sets up equities not infrequently goes much farther than a magnified view of increased earnings. Sometimes it takes the form of magnifying the earnings already existing. Depreciation to the optimist sometimes seems a bugaboo of timid souls who have no faith in the growth of their country. What the careful manager would reserve for depreciation is figured by the equity optimist as net earnings available for dividends. This depreciation may be pretty large in comparison with the net earnings, at least with many public service corporations, so that when it is ignored, the "factor of variability" of an equity often appears to be much smaller than it really is.

The amount that should be allowed for depreciation may be one-fifth to one-fourth of all the apparent net earnings of a property, so that if this is ignored an equity may seem to have a "factor of variability" of only 4 or 5, when there is little or nothing really left, for it and its "factor of variability" approaches infinity.

Moreover, depreciation is not an exact thing. No one can say with respect to a particular property exactly what the depreciation amounts to. Suppose it to be the best judgment of an honest and able man that there should be set aside every year to take care of replacement $2\frac{1}{2}$ per cent of the structural value, and that this amounts to as much as 25 per cent of the net earnings that were distributed.

Judging by what has been done, some optimists would consider it all right to build up holding companies on such properties so that the holding company equity would have a "factor of variability" as high as 20.

Suppose in this case outlined above, it is found, after experience, that the honest and able man who figured the cost of replacements had been a little wrong and that it proved to be 3 per cent instead of $2\frac{1}{2}$ per cent. Then the equity with a "factor of variability" of 20, would be entirely wiped out and all the value it ever had would have existed because a part of what should have been reserved for depreciation had been paid out as earnings.

When we come back to the empirical rules that investors form, we can see how he sometimes gets into trouble. He says "the earnings must be twice the bond interest," but if he depends too much on rules and does not analyze, he may be dealing with a residual which technically amounts to twice his interest but is actually what is left after underlying charges. "The market value of the collateral must

be twenty per cent more than the loan," but there is market value even to speculative equities which are themselves but residuals after permanent financing has resulted in creating a liability for all that was possible. The loan is then virtually made on a "margin" for collateral. "The earnings applicable to the preferred stock dividends must be two or three times the amount of the dividends." But such a rule is no sure test for security because it makes a difference what comes before. If there were a company having net earnings of \$500,000, interest charges on \$6,000,000 of \$300,000, and preferred stock dividends of 6 per cent of \$1,000,000 or \$60,000, the earnings applicable to preferred stock dividends would be over three times dividend charges, but this preferred stock would not be so secure as if the company had net earnings of \$500,000, bond interest on \$3,000,000 of \$150,000, and preferred stock dividends of 6 per cent on \$3,000,000 or \$180,000, although in this latter case the earnings applicable to preferred dividends would be less than twice the dividends. In the first case it would take much less in the way of disaster to wipe out the preferred stock than it would in the second case due to the relative size of the prior lien. In the first case the bonds alone, \$6,000,000, would be as much as both bonds and preferred stock in the second case. The empirical rule would be wholly misleading.

Growth of Investment in City Water Works

By CHARLES B. BURDICK

Alvord, Burdick & Howson, Engineers, Chicago, Ill.

THE impression is common that a city water works, once built, provides for indefinite future needs. This is an erroneous impression. The average city is growing rapidly, and it is seldom practicable from a financial standpoint, to provide for the distant future further than to adopt a plan capable of expansion. Therefore, as long as our cities continue to grow the investment in city water works must grow. There is and must continue to be a continual flow of capital into such enterprises, more or less regardless of the general state of business.

Pre-War Investment

The latest available U. S. census statistics, which refer to pre-war conditions, indicate that the average investment in municipal water works is \$32.60 per capita of the cities supplied. This covers 105 cities in the United States over 30,000 in population, aggregating about 20 million people. The average operating expense was \$1.48 per capita, and the total annual cost of water was \$3.76 per capita including operating expenses and an allowance of 7 per cent to cover interest and depreciation.

Present Investments

However, a higher scale of prices prevails today and is likely to prevail for some years in the future. At the present time new investments must be made upon a base at least 60 per cent higher than prevailed immediately before the war. This ratio is somewhat less than prevailed two years ago, but the tendency is now upward, and at the present moment somewhat exceeds the above figure. Adding 60 per cent to the pre-war average cost of water indicates a present investment cost of about \$52 per capita. Operating expenses have increased about 75 per cent, indicating an operating cost at the present time about \$2.60 per capita, and a total annual cost of \$6.24 per capita including 7 per cent to cover interest and depreciation.

Growth of Investment

According to recent census statistics the average American city is growing at a rate which will double its population in about twenty-three years. Applying \$52 per capita to this growth, in a city of 100,000 people, the expenditure for new construction will amount to \$5,200,000 within this period which is equivalent to about \$225,000 per year. This

expenditure will, of course, be more or less for individual cities, depending upon how fast they grow. Also, natural conditions affect the amount of investment in some cases, but this variation is comparatively small by reason of the fact that about fifty per cent of the average water works investment is included in the cast iron pipe, the cost of which is approximately proportionate to the population served.

Municipal Bonds

Forty years ago the water supply of cities was a favorite speculative investment. A large proportion of the original municipal water works were built by private companies operating under municipal franchises, giving an exclusive right to the use of the streets, and the sale of water to private individuals. The company usually received a certain sum from the municipality for fire protection. In the youth of the industry this was probably the only way in which the cities could become rapidly supplied with water, for sanitary conveniences were by no means what they are today, and the public had to be educated.

However, when the service began to be recognized as a necessity, many municipal works were built, and within the past twenty years the majority of the private water companies have sold out to the municipalities. Today the great majority of water works bonds are issued by municipalities. In many cases they are liens upon all property in the city.

The almost universal condition of the municipal ownership has been brought about partly through the general desire to purvey a necessity by municipal undertaking, and partly through the high per capita investment required for adequate water supply, and the comparatively small annual return. These things have rendered this class of property unattractive to speculative investment. The water works system, consisting largely of cast iron pipe is a long-lived structure requiring comparatively little maintenance, and comparatively low operating expenses. Thus, it is a business, once investment has been made, that can be carried on with moderate success under the kind of management usually accompanying municipal undertakings. In many cases very good management has been secured through placing the municipal water works under a board of trustees, removed from politics through overlapping terms and relatively long tenure of office.

The supply of bonds from this source is very little affected by the condition of commercial business. The cost of water is minor as compared to the ordinary expenses of the household. It is much less than gas, electricity or transportation. It is scarcely more than the average family spends for a newspaper and a magazine or two. Thus, while new construction may be delayed temporarily by excessively high prices, and it was so delayed during the war, investments cannot be postponed more than a year or two, for water in the house is now regarded as a necessity. Within the last year particularly, much construction temporarily delayed during the war has been undertaken, and it is probable that during the next five years the expenditure for betterments will be materially above the average municipal expenditure for this purpose.

Thus, the municipal water works bonds will appear upon the market in increasing amounts, and with considerable uniformity for many years to come. It is a type of investment that will remain attractive to investors desiring a high degree of security and a moderate interest return.

The Taxi Cab and the jitney

By HENRY L. DOHERTY*

President Cities Service Company

WHEN the public takes the advice of the state utility commissions instead of expecting the commissions to follow its dictation, then and then only will the full benefit of intelligent regulation be realized. The pro-

gressive and constructive public service companies want intelligent regulation and that they do not want to fool with politics.

Probably the utility operators themselves are to blame for the fact that a large part of our citizens still think it is the duty of the state commissions to give the public service companies hell instead of justice. Agitation for reductions in rates were formerly a daily diet but an infrequent accomplishment, and in the old days a bill or ordinance would be passed which was generally intended by the agitators to be so drastic that it could not be accepted, an injunction would be issued, and then, after a long and expensive legal battle, the courts would be compelled to declare the rate confiscatory and the issue would still be alive as the basis for another political campaign.

As regards jitney competition, the public told the public service companies: We are going to recognize you as a necessary and natural monopoly, but if we do this we must regulate your service and earnings. This work was hardly under way before the street railways of the country were subjected to the rottenest and most unfair competition. I refer to jitney competition. The jitney runs only when it pays to run, when it takes from the regulated street railway a large portion of the cream of the business, which the street railway companies depend upon to compensate them for the regular schedules which must be maintained in the hours of light traffic when cars are run at a loss.

I desire to call attention to the necessity for the adoption of a fair method of profit-sharing and would suggest the adoption of a standard rate for utility service, with the understanding that all profits above a certain fair return upon the capital invested in the business, be shared on a dividend basis with the consumers of the service provided.

I champion the theory of control by State Commissions and criticize the division of authority now existing between the State Commissions, City Governments and State Legislatures. If it is necessary to reserve any control for the citizens of the city or the municipal government then this control should not be of a character to prevent the utility from functioning. I know the cry of home rule is potent, but it should not prevail with thinking people in this instance. One might paraphrase and say, "Home rule, what economic crimes have been committed in your name."

I would have the taxicab business in many of our American cities declared a public utility, a monopoly, and schedules adopted that would produce real service. Such regulation would distribute taxicabs which now congregate in the congested districts to the exclusion of the outlying districts so that when taxicab service is necessary it would be available. Incidentally the average length of taxicab rides would be less.

I also suggest that in our highly congested cities such as New York, thought should be given to the problem of treating the delivery of goods and wares as a public utility, the reason being the diminution in the cost of distributing to the public and the lessening of congestion in city streets. There is a crying necessity for the adoption of service charges on a standardized basis or on the basis of readiness to serve. This readiness to serve method of charging distributes the cost in a fair and equitable manner to every customer of a public service company, and in the long run is fairer not only to the company but to the customer as well.

As far as methods of charging are concerned there is no hint or suggestion of any better method being found in gas or electricity than the readiness to serve method.

Many gas companies face a gloomy future and nothing will save them except the adoption, to a large degree, of the principles of the readiness to serve method of charging. The system of charging for gas purely on the basis of consumption is too inequitable to waste time on in discussion. We found that under the stress of war conditions, rates based only on consumption had to be advanced to the point of diminishing returns and service charges had to be used in

many cases not simply as a matter of justice but as a matter of necessity. If a customer is paying you \$30.00 a year for gas under the old system and under the new would pay \$15 as a readiness-to-serve charge, and then get his gas at half the present rate, it doesn't take much imagination to realize the stimulation this will give to sales.

Illinois Bell Telephone Growth Keeps Abreast With Chicago

By W. R. ABBOTT,
President, Illinois Bell Telephone Company

DURING 1922 the Illinois Bell Telephone Company spent in the territory served by it approximately \$18,000,000 for new construction.

Nearly \$100,000,000 will be spent by the company in the next five years, to provide additional facilities in the company's territory.

Approximately 54,000 telephone stations were added to the Bell System in the state of Illinois during 1922.

The gain in telephone stations in the city of Chicago alone was about 32,000. At the end of the year the company was giving service to approximately 637,500 telephones within the city of Chicago.

With this increase in the number of stations there was a corresponding increase in operating expense, due to increased personnel and other charges which naturally follow the company's additional service.

There has been a continuing improvement of our service. The improvement in employment conditions has enabled us to choose more carefully our operating employees, and this has had its good effect on our service.

As our city grows our traffic load also increases. Traffic in Chicago is now running in excess of 3,000,000 calls per day. It would be difficult for the average person to comprehend what this means. If all the calls made in a day in Chicago could be combined into a single call, such a call would require 6,250,000 minutes, or twelve years.

This company was one of the pioneers in Safety First and Accident Prevention work. We now maintain a regular department devoted to a study of methods of safety and the education of our employees in safe methods of performing their work and regulating their daily actions. The results obtained have been very gratifying and will be surprising to many persons. In the year 1917 the company employed 15,477 persons. During that year telephone employees suffered 587 accidents, which caused them to lose time from their work. This record does not include minor accidents, which showed no lost time. The total number of days lost by employees for that year was 7,159 and the number of lost-time accidents, per one hundred employees, was 3.81. In 1922 the company had an average of 22,299 employees. Up to November 30 there had been 306 lost-time accidents with a total of 2,290 days lost. This was at the rate of only 1.44 accidents per one hundred employees.

This record has been made by the employees themselves, who have cooperated most willingly and intelligently with the management in its effort to minimize accidents. It has been said that accidents will happen, but our experience shows that they may be reduced by intelligent effort and the willingness of all concerned. We have good reason to hope that the number of accidents will be still further reduced as time goes on.

During 1922 the Employees' Association suggested a routine whereby every employee in any department becomes a representative of the company with the public. Employees carry with them a small printed blank, pink in color. When an employee, in conversation with a telephone user, learns of any criticism or failure of the service, he reports it on this blank, which goes immediately to the proper department and steps are at once taken to remedy the matter.

The growth of Chicago, as well as other cities in Illinois, and the state as a whole, is carefully studied by our engineers with a view to estimating as accurately as possible

*From an address before the National Association of Railway and Utilities Commissioners, Detroit, Nov., 1922.

the telephone needs of the people. It has been our policy to keep ahead of the demand for service, if possible. Occasionally we are unable to do this on account of unusual rapid growth in some locality; but, as a rule, we have been able to anticipate fairly well where the service will be needed, and to what extent. The most important step in forecasting telephone requirements is to predict the growth of the city itself as reflected by its population. In the decade from 1910 to 1920, the population of Chicago increased 517,000. Chicago for years has been the second largest business center in America, because of its location and large tributary territory; its energetic business men and business organizations; its transportation facilities and its nearness to raw materials. The elements which have contributed to growth in the past will, it is expected, produce comparable growth in the future. Our engineering studies indicate that in 1930 the population of Chicago will be about three and a quarter millions and in 1940, four millions. If the existing ratio of telephones to population continues, as we believe it will, there will be more than 1,000,000 telephones in service in Chicago in 1940. The Illinois Bell Telephone Company is ready to do its part in meeting the city's growth and providing the agencies of communication so necessary to its commercial development and social needs.

The Bell System represents public ownership of utilities in its best sense. There are more stockholders in the Bell System than in any other corporation. During last year more than 22,000 shares of American Telephone and Telegraph Company stock were sold to the public of Illinois. The American Telephone and Telegraph Company has more than 235,000 stockholders, of whom 46,000 are telephone employees. In addition, there are about 100,000 employees buying stock on the partial payment plan.

During the year the telephone service in Chicago was called upon to meet the confused situation growing out of the interruption to street car service. At such a time the telephone service must meet an unusual strain, while the telephone forces are confronted with the same difficulties as of other workers. Through the intelligent effort and loyalty of our employees, aided by special means of transportation provided to meet the emergency, normal telephone service was maintained.

During the year the whole world was saddened by the death of Dr. Alexander Graham Bell, inventor of the telephone, whose death took place in Nova Scotia, August 2. Dr. Bell was unique among inventors in that he lived to see the results of his invention spread over the world. In 1876 there was one telephone—that which the inventor and his young assistant had made with their own hands. At the end of 1921 there were in the world more than 21,000,000 telephones in service, of which about sixty-four per cent were in the United States.

Avoiding Financial Problems

By FREDERICK J. KNOEPPEL, C. P. A.

Resident Partner Scovell, Wellington & Co., Accountants—Engineers

BUSINESS dislikes to pay taxes. Find a super-genius to devise an enforceable tax on indifference in business. Watch the result: Indifference (variously attired, in undignified haste) fleeing from the Executive Chamber of Business by the nearest exit.

Indifference (consciously or unconsciously permitted, in one form or another) is invariably responsible for business failure, or near failure. Some forms of indifference hint of incompetency and procrastination, even a lack of courage. During the after-war period many executives lacked the courage (they claimed the high hope and faith of optimism) to reduce their organizations and curtail operations to meet the situation. Hope and faith cannot overcome the law of supply and demand. In the final analysis these business men, all, were indifferent to future financial difficulties.

Today, many business executives repeatedly remark, "I know my production is costing too much," "our costs are

not computed correctly," "our line should be reduced," or "our sales policies need adjustment," all these admissions being followed by various reasons for delaying action. Again, nothing but indifference as to the ultimate financial result. Indifference exists because the penalty is not **immediate**. When the accumulated results of various shortcomings throw their aggregate weight in cost and losses against the financial strength of the business, an indefinite postponement of remedies is no longer possible. Neither is there then time for fundamental remedies, hence bolstering, bond issues, amalgamations.

Creditors will not permit the financial problem to go unheeded, as the executive allowed other problems to go unsolved. Outside interests demand that the issue be met (would that they had the power to raise their insistent voices before that issue became acute) and all then admit that "The business is confronted with a financial problem." Let us rather say "With the **added** problem of finance," for it exists only because other problems received but indifferent attention. A financial problem does not come upon a business suddenly, like a highwayman lurking along the road. It develops gradually from trifling beginnings, grows in proportion to indifference and lack of forethought, and is the final focal point of all other problems.

If the financial problem is the focal point, the Balance Sheet of a business is its best index or weather map. Little daily use we would have for the work of our Weather Bureau if it simply recorded temperature, velocity and snow or rainfall **as it occurred**. Its real value is that it **foretells**. Let the accountant do the same and forecast the future financial situation of a business. The idea will be long in taking root. We need a few disciples, and the bankers will qualify.

Bankers could avert many serious business difficulties by requesting their borrowers to furnish (in addition to a current or actual Balance Sheet) Balance Sheets representing probable conditions several months ahead. Executives would soon appreciate the value of making such forecasts, because they must be constructed from answers, given impartially, to the following questions:

Sales. What are the sales probabilities for **each** of the ensuing months, based on recent experiences as to difficulties in closing orders, considering the seasons and the present volume of unfilled orders?

Funds Receivable. In what monthly amounts will the sales, as forecasted, become accounts receivable, and in what months will the accounts be collectible?

Cost of Sales. What is the condition of the inventory to meet the sales forecast? What additional cost will be required to purchase and manufacture, so as to meet the prospective sales, and in what months will the purchases and costs have to be paid?

Purchase Commitments. What purchase commitments, over and above the requirements for the prospective sales, will be due, and in what months must they be paid?

Other Funds. In what months, and in what amounts, can the accounts and notes receivable shown on the present (current) Balance Sheet be collected? Will these monthly collections be more or less than what will have to be paid during these months to meet the maturing obligations now on the current Balance Sheet?

General Expenses. What amount will be required each month to meet the selling and administrative expenses?

Such forecasts must not be confused with hurried calculations, made in haphazard fashion. Unless they are developed as budgeted Balance Sheets, complete in all details, the forecasts will be worse than useless. The results must reflect impartial analysis and reason, not mere hope and optimistic expectation. The difference between the resulting net worth reflected in one and the next subsequent Balance Sheet must be supported by a carefully forecasted statement of Profit and Loss.

Picture the executive who has made such a forecast. He sees January beckoning encouragingly, February a little disturbed, March holding its own (but with some difficulty), April despondent, and May worried because of what may

happen to April. He adjusts his loans for a better distribution of maturities (the banker willing to help him through the April difficulties), adjusts his purchasing program to meet his sales forecast, and plans to curtail the manufacturing schedule accordingly, or aims at some sales device to fill an anticipated gap.

Having reviewed the forecasting Balance Sheets he should turn to the supporting statements of anticipated monthly Profit and Loss. These should be in detail, to vividly call attention to the larger, and therefore more important items of expense. Admittedly, the executive must use rare judgment in deciding upon any policies of expense reduction; but his is the advantage of having time within which to take action to change the figures of the forecasts, **before** the actual story is drawn from the ledgers and becomes an unalterable picture of past results.

Once instituted, these forecasts can be continued monthly, as a more or less routine matter of Administrative Accounting. If six months is decided upon as the practical limit of forecasting, a forecast for the seventh month should be made when the first month of the forecast has actually elapsed. The extent to which actual results of the first month are better or worse than the forecast will then be known, and should be applied as a separate and distinct item to the then existing forecasts for succeeding months. Like all departures from habitual practice, the first step will be the most difficult, largely because indifference, or skepticism, will still rule.

The value of such forecasts is not only for the business that feels financial problems approaching or future sales contracting, but also for the business that is going steadily forward and has every prospect of continuing to do so. In a word, these forecasts help to discount optimism and to keep current assets and liabilities in proper ratio or balance.

There is another device, frequently used in Cost Accounting (indispensable, in fact, to the intelligent reckoning of costs), which the executive could well use to directly improve his financial situation. It is what is commonly known as a Burden Development; a careful segregation of all items of factory or manufacturing expense, by departments and operations, to show the annual amount of expense incident to the full normal operation of each. The executive who will carefully review such a Burden Development, will have his attention called to the departments and operations involving heavy expenses, and to those which tie up large amounts of capital.

Should the Burden Development reveal an unbalanced condition of equipment (the productive capacity at certain operations being more or less than at others) it means that capital is tied up needlessly. The remedy lies either in reducing the equipment and floor space of various departments or operations to the capacity of the lowest, or in effecting a balance of capacity, reducing in some departments and increasing in others.

This is a very elemental and fundamental principle of Management; seemingly needless to mention, for every executive knows that his total output is limited by that operation which has the lowest capacity. But he does not seem to realize that the unused capacity of other operations is needlessly adding to the ultimate cost of every unit produced, and tying up capital in idle and unproductive equipment. He may realize these facts, yet nine times out of ten he does not *know* the normal capacity of each operation. He permits the operation to be surrounded with delays and other inefficiencies, and considers his actual output as representing his normal capacity. His costs are correspondingly high and profits low, while funds remain invested (capital tied up) in equipment which brings no return.

A Burden Development will also reveal the annual cost of each operation, detailed as to its elements, which are interest on investment, depreciation, taxes, insurance, power, heat, light, labor by kinds, supplies, etc., etc. The Burden Development lays the story of capital invested and operating cost before the executive, as no other piece of accounting or engineering work will do. He can identify the costly, burdensome operations, and the amount of each element

contributing to that cost, and call for a careful analysis of the conditions surrounding and affecting that operation.

In a certain plant, a change was effected in a drying operation, substituting artificial for natural drying. The time saved at this point alone resulted in a material reduction in the amount of work-in-process, permitting a reduction in borrowed money, and a saving of interest payments. The alternative, to reducing the borrowed capital, was to increase the raw or finished stock, or transfer the released working capital for whatever use would most benefit the business.

A lesson in finance is to be drawn from this example: Know what departments, operations and functions are responsible for the large use of working capital. Then, when more capital is needed at any point, or to carry out new policies, *try to release* existing working capital through changes in manufacturing methods. In other words, *save* and *transfer* working capital instead of *borrowing*.

The shrewdest financial men (not always the so-called financier) recognizes clearly that Finance (particularly working capital) is not to be considered by itself. He knows precisely *how* it is interwoven with and affected by sales, by manufacturing efficiency, by the foresight used in determining what shall be produced, and, in fact, by practically every problem of business policy and management. The mere addition of funds (if not accompanied by an increase in productive efficiency, lower cost of product, or an increased volume of sales) only postpones the financial reckoning.

Management Control of Great Utility Enterprises Through Budget Procedure

BY LOUIS F. MUSIL

Treasurer of Cities Service Company

EVERY man to the extent that he mentally or physically performs any task is a workman; to the extent that he plans for himself or others, he is an executive.

Every individual who is charged with the responsibility of supervising the expenditure of human energy or capital should be required to predetermine the results to be attained.

Furthermore, experience having demonstrated that individual opinion is an unsound basis for action, proper organization must provide for the concurrence by designated executives in these pre-determinations of results.

Too many men fail to give consideration to the amount of working capital necessary in their business and the method by which they can establish a more uniform load factor to put the fewest peak strains on the cash resources of the business. They sometimes forget that working capital must be considered from the same viewpoint of profitable employment as the permanent capital invested in plant.

Applied to New Business Dept.

For example,—let us assume that a new business manager desires to put on a special campaign for the sale of appliances and he recommends a very attractive purchase contract for the merchandise costing \$50,000 to be shipped at once and paid for in thirty days.

It immediately becomes somebody's business to know over what period of time the appliances to be purchased are going to be resold, and over what period of time they will be paid for by the ultimate purchasers. The exact months in which the payment for the new goods must be made and the months in which the proceeds from their sale will be received must be closely estimated, because the business as a whole has a great many other calls on its available cash. It might readily be that the peak loads of all requirements would fall in the same month.

The elimination of simultaneous demands creating high peaks in the curve of cash requirements is entitled to the same amount of study that has been given to the elimination of high peak demands on the capacity of generating stations. The same reasons apply.

A careful executive receiving this recommendation from the new business manager must super-impose it on a composite of his other requirements. If it increases the demand at any time beyond the capital capacity, it is obvious that some modification of the program is necessary. For instance, this peak demand may coincide with the payment of semi-annual interest on the funded debt or a dividend disbursement date or the payment of previously contracted obligations, or may be requisitioned at a time when the cash produced from the earnings of the company is at the very lowest ebb.

The new business manager, before proceeding with his desired program, will endeavor to arrange terms which will put no cash burden on the company if he is required to obtain the concurrence of the executive who has the financial responsibility. A manufacturer of appliances might agree to carry the account until the goods are paid for by the ultimate consumer,—with a reasonable time limit.

Executive's Responsibility

Even in such a case, the executive has not finished the discharge of his responsibilities until he has learned from the records of past performances how fully he may rely on the new business manager's estimate of the length of time it will take him to sell these appliances to customers and collect the money.

If he is assured that the new business manager's judgment of what he can do is correct, and the program recommended imposes no cash strain on the company, he can very properly and with very little consumption of his own time, reach a proper conclusion in this important matter. He need not then study the many details which the new business manager must handle when producing the sales on a proper basis of profit to the company.

Obviously it must be the business of the executive to have recommendations brought to him in such a form that he knows what to expect, and, more important still, such that he can look backward after the campaign is over and appraise the judgment of the man upon whose recommendation he has relied. Equally important, he must be able to point out to that man the lesson to be learned from the estimate and from comparing it with the actual results obtained.

It is clear how great a saving of his own time the executive can effect by administering the business in this way, without leaving any doubt in the other man's mind of the executive's appreciation of the other man's knowledge and control of the results in his department.

If this kind of cooperative functioning between the principal executive and the new business manager is wise, then the same procedure should certainly be followed with all other departments all the way down the line of organization. Let every member of the organization learn to feel that to the extent that he mentally or physically performs a certain task, he is a workman, and to the extent that he plans for himself, or others, he is an executive.

Fundamentals of System

Fundamentals which must be incorporated in any system of budget procedure are included in the following:

1. The executive must recognize that his function is to create and enforce policies rather than to work out the problems resulting from such policies. If the expected results of policies laid down are predicted and mutually accepted, there will be little question in determining their merit or in determining the changes that may be necessary.

2. The executive must have knowledge of the control which is exercised by every individual in his organization to whom he sub-divides responsibility. He must give evidence as to his knowledge of that control or the lack of that control and reward all individuals accordingly.

3. Individual merit can better be gauged by comparing a man's results with an accepted estimate by him of his future performance than by comparing his results with the results of some other individual.

4. It is, therefore, necessary for each individual in the order of his responsibility to recognize the necessity of

adopting some common system of estimating the possibilities ahead of him.

5. Each individual must recognize the necessity of making his own estimate of what he is going to do and how he is going to do it before he, or his associates, or his executives can concede his qualifications or expect a full measure of results.

6. Each individual must further recognize that, through such a system, by the constant comparison of results with expectations, the leaks resulting from human omission and human judgment can most effectively be minimized.

If the above fundamentals can be accepted, there is no question that budget procedure will develop the yardsticks by which the executives can determine to what extent responsibility has been successfully assumed. Without such a measure, no one can do full justice in judging the ability of an individual who is trying to assume responsibility and who is entitled at all times to know to what extent he has or has not succeeded.

Executive Ability Developed

On the other hand, no executive can afford to pass control in the sub-division of responsibility to any individual without complete assurance that such responsibility is being accepted and continually carried. Otherwise, he is not fulfilling his own executive duty. Does not the foregoing show how the application of budget principles and procedure accomplishes the development of men for executive positions and makes it an easier problem to reward the right men, with the result not only of encouraging them but inspiring constructive thinking on the part of all the others?

With the ever-increasing size of the organized business, these matters become increasingly important. The few men in whom the ultimate responsibility must in the end repose have not the time to make detailed analyses. Their decisions must be made from analyses prepared by others. They must be able to tell by inspection that the policies in which they acquiesced are carried out and that the results are in accordance with their expectations. They cannot be satisfied that their mere selection of men to assume individual responsibilities will necessarily result in a satisfactory fulfillment of the trust reposed in the executives by the security holders who supply the capital.

The executives must not rely upon the future analysis to show the results that are expected from the use of this capital. They must know what the goal is and what progress is being made toward that goal at all times.

Without question, more attention can be profitably given to the teaching of the correct method of thinking by the individuals of any organization. This can be done only by a recognition of principles and procedure at the top and the insistence that those principles and that procedure be carried down the line.

Employer and Employee

It is always true that an employe, no matter in what position, looks upward for the examples that he follows. If the rank and file are to be expected to get real efficiency out of their labors, whether physical or mental, they must approach their daily job with a mental attitude produced by their being taught these principles. They will not do so unless they feel that their foremen, or their superintendent, or their manager, or their president do likewise. Every man will think before he acts if he believes that the man above him approaches his problem in the same way and if he feels that he will be rewarded relatively on his merits.

His first thought will then be—what am I trying to accomplish? His second thought will be—does the man above me realize that if I do accomplish this it will be a job well done? His next thought will be—Have I accomplished what I started out to do and have I been recognized as having done it? When men approach their problems in this way, they have adopted budget principles and procedure.

Any organization that is successful in getting its men down the line to proceed on this basis of thought will be surprised at the over-all results as compared with anything

the same group of men has produced under any previous conditions.

The productiveness of labor, skilled and unskilled, can be much increased by an effort on the part of executives to attain this state of conditions, and I believe the more they recognize what I have termed above as budget principles and budget procedure, the more nearly will this goal be reached.

I have often said the man who could do today what he will do tomorrow with today's experience would be a wonderful man indeed. We can approach this possibility if we adapt these principles to our problems. We must first, however, appreciate the principles ourselves and to be the most successful executives we must have the ability to "sell" them to those to whom we delegate responsibility. The larger the organization, the more difficult, but the more necessary is this executive task.

Human Relationship

One of the greatest problems of the day is that of human relationship which gives a mutual consciousness of knowledge and understanding to all whose efforts are being exerted in the solution of any problem; to the extent that this understanding is lacking, prejudice and unselfishness in one form or another undo much which would otherwise add to our surplus accounts. I believe this understanding and the greatest centralization of the aim or organized effort can be furthered by the recognition of these fundamental principles.

The budget is too often used only as a check on dollars and for that reason its administration in many cases has been passed to that man or group of men who are able to check dollars very well, but in whom no recognized responsibility is vested for concurrence in or initiation of policies or programs which make it necessary for the dollars to be checked.

Who is it that takes the ultimate responsibility if inefficiency and losses result? It is the executives at the top of the ladder and, for that reason, it behooves these same executives to make sure that they know that control is being exercised over all of the factors which make for profit or loss.

Would Link Public Closer to Utilities

By M. S. SLOAN
President Brooklyn Edison Co.

THE New York State Committee on Public Utility Information, of which I have the honor to be Chairman, is a department of public relations for the gas and electric industry of this State. Its purpose is to promote better relations between utility companies and their customers by bringing about a more complete understanding of our business by the general public and a more complete understanding of the general public by the men who conduct this great business.

Our committee exists to furnish accurate information and facts about our business to any citizen or group of citizens. We prepare now and send out weekly to the newspapers information about the various phases of our industry. We do this in the belief that our business with its great investment and widespread service, which touches so very intimately the domestic, social, commercial and industrial life of the people, is a matter of concern to the public, and the public are entitled to know about it. They should be informed about our organization, income, needs and possibilities. We should tell them about the bigness, the importance, the necessity, the growth and development of our business; about the payroll, the amount of materials purchased and taxes paid; about the physical condition of the properties, and about the stability and permanency of our business. Few other American industrial operations can show such a record of stability and fundamental sound-

ness as the gas and electric. Those that compare with them are the other public utilities.

We should tell why we are natural monopolies; of the demands for our service; the importance of our companies to the communities; how we are financed; how the utilities are taking the customer into partnership or ownership of our properties; our obligation to furnish good, adequate and continuous service at fair and reasonable rates; and the steady demand for new necessary capital in our business in order that we may keep up with the progress and growth of the various communities in which we operate.

We believe that our committee, which collects facts about the industry and makes them available to the newspapers in regulation newspaper form, is in some degree at least a service to the newspapers. The reception our matter has had generally among the newspapers in the State seems to justify that belief.

The committee is working along two other lines—it is endeavoring to establish a condition where each individual company will give out its own local news items; where it will see to it that each newspaper in the community in which it operates is informed of any event of general interest which happens in the business life of that company.

We believe this is due the newspapers as news-gathering organizations and to the public which they serve. Moreover, we are endeavoring to show to the companies the advantage of more extensive and more regular and continuous advertising. Each company has many things to tell its customers which are of interest to them and of importance to the community. These things, however, are not always news items—or information of a character which a newspaper could or should print in its news or editorial columns. Space for information of this nature should be paid for as a matter of business, and it is good business for the companies to buy space in order to tell these things to the public.

Behind the investments in utilities there is a history of human study and investigation and achievement in all the sciences; of improvement in service rendered and in accuracy of performance, and of a growth and demand of a necessity that is not yet ended. The world can never think how to live without them again. They are the very heart of every community, furnishing a vitally necessary service as cheaply as human skill and brains and experience permit.

The communities need us and by the same token we need the communities. We need their understanding of our business, our problems and our ideals. I do not know a single utility executive who is not animated by a genuine ideal of public service. We haven't any kick with our customers, or with the officials who regulate our operations.

We know that the prosperity of every institution patronized by the public is dependent upon the good will of the people who comprise the public. Good will is the most valued asset of any business. It follows prestige, which is reputation for excellence of performance. We fully acknowledge that it is our duty to give the best and most efficient service and we know by doing this we best serve the public, our stockholders and the interest committed to our charge.

What we seek is the genuine friendship of our customers built on a knowledge of exact facts and understanding of our business, and we are willing to go as far toward the other fellow as we know how to bring that about. That is as briefly as I know how to tell the reason for the existence of our committee.

Why Municipal Ownership Has Proven a Failure

PAUL P. HAYNES,
Former Member Public Service Commission of Indiana

MUNICIPAL ownership of public utilities is essentially wrong regardless of the form of city government. Municipal ownership of public utilities in city manager cities is fundamentally as unsound as in cities governed by the system of mayor and council.

I believe in the city manager system and city agree-

ment and have helped to enact city manager legislation.

The city manager system, however, has not, will not and cannot change or materially modify the inherent political character of city governments, and it is the political foundation underlying all city governments which will always prevent the successful public ownership and operation of utilities.

Public utilities, notwithstanding their non-competitive position, are industries furnishing an essential service, the success or failure of which is controlled almost entirely by the broad, deep-rooted and fundamental laws of economics and business—the identical laws which govern the success or failure of all private industrial and commercial enterprises.

Public utilities require the constant application of sound business judgment, expert operation, skilled management and above all continuity of wise business policies.

No city primarily governed by popular rule possesses, or can be certain that it will long possess, these qualifications so essential to the public utility business. No city, the policies of which are determined by popular vote, can long continue to apply sound economic principles and business methods to its ownership and operation of utility properties—and the simple reason is that cities are essentially political agencies—not necessary partisan, but broadly speaking—political.

And, what are business principles between politicians? Of late we have heard a demand for less politics in business. This truism finds its most convincing application in the public utility business.

Public Managers Limited in Action

City managers are almost exclusively administrative officers. They have little or no legal control over municipal legislation or policies. The city commission or council is the legislative or policy determining body. It is a political body elected frequently and so far as utility matters are concerned is constantly subject to the will of the electorate. In important matters of policy connected with the operation of public utilities, the city manager administers or executes what the commission or council ordains or legislates.

If an uninformed or ill-advised majority of the voters demand lower rates, the city will have lower rates although the service may be impaired and the business become insolvent. The city manager, no matter how capable, cannot stop it.

If adequate and continuous service demand the creation of a depreciation fund—the plant will have no fund if the politicians organize against it. The city manager cannot force it.

If thousands of dollars are needed to rehabilitate in order to render adequate service the plant and the commission or council refuses to appropriate the money—the public suffers and the city manager cannot help it.

A casual study of municipal operation shows that frequently the thing that has been best for the municipal plant, and the thing the public most needed in the way of service or rates, was unpopular with the majority of voters and could not be obtained.

The desirability of municipal ownership of public utilities, broadly speaking, cannot be determined unless the purposes of and reasons for public ownership are clearly understood. What are the asserted purposes of popular ownership of utilities? The sole business of public utilities is to render service to the public. It must necessarily follow that the reason or purpose of municipal ownership is to render better service to the public than can be rendered privately, or the same character of service at lower rates.

If it could be established that popular ownership does these things, then it might be conclusively argued that so far as this less fundamental phase of the question is concerned, municipal ownership of public utilities is desirable.

From quite an extended, and I may say unprejudiced study and personal familiarity with the popular ownership and operation of a large number of utility properties of various kinds, I have found that on the average the service

rendered by popularly owned utilities is inferior to the average service rendered by privately owned utilities.

One outstanding example of this fact which a casual investigation will show, is the record of outrages or breakdowns in municipal electric plants as compared with the record of private plants. A breakdown in a plant which causes a suspension of service, results not merely in the inconvenience of the average consumer, but in the stopping of factories and industries generally, and in many cases, the loss of thousands and hundreds of thousands of dollars, and the suspension of essential production.

Sound Business Judgment Impossible

One of the reasons for this failure of municipally owned plants is the lack of foresight or the political impossibility of acting on foresight, in providing for future growth and adequate reserve plant.

The general experience has been that municipal plants have failed and neglected to install additional generating capacity until long after there was an urgent need for it.

Frequently administrative changes resulting from frequent municipal elections, prevents, and will continue to prevent, the exercise of sound business judgment and foresight in the management and operation of municipally owned utilities, and without these essentials the public will always receive inferior service from such utilities.

It is true that exceptions may be taken to this statement, and certain municipal plants may be cited that are rendering unusually good service. The test, however, is not to be made by the few, but by the many, and the test cannot be made with 1, 2 or 5 or 10 years' experience, but it must be the average experience over a long period which will determine the facts as to the quality of service.

I state it as a fact, based on first hand knowledge of a large number of properties, that the service rendered by municipally owned plants is inferior to the service rendered by privately owned plants.

Going back, therefore, to the original proposition that one of the reasons for municipal ownership is that municipal plants can and do render better service, it is obvious that this reason cannot be supported and must fall. Let us now go to the other reason, that service can be rendered by municipal plants at lower rates.

It may be admitted at the start that municipal plants can and do render inferior and less adequate service at rates lower than the rates which a privately owned plant is required to charge in order to render adequate service. It is a matter of record, however, in practically every state in the Union, that municipal operation of public utilities is more expensive and less efficient than under private ownership.

Take, for example, the state of Indiana with which I happen to be fairly familiar.

A comparative study has been made of the costs of operation of all municipal and private plants. The results of this study show that of every \$100 of revenues received, the private electrical plants in the year 1920 spent \$79.18 for operating expenses, and the municipal plants spent an average of \$89.69, and included in the private electric plant expenditure is \$7.26 for taxes for which the municipal plants had no expense.

In other words, for 1920, out of every \$100 of revenues received, the municipal plants in Indiana spend \$17 more for operating expenses than did the privately owned plants.

In 1920, out of every \$100 of revenues collected by water plants, the privately owned plants expended \$63.86 for operating expenses, including \$16.05 for taxes as compared with \$74.55 expended by the municipal plants which included no taxes.

In other words, to put it on a comparative basis, out of every \$100 received, the municipal water plants spent approximately \$26.75 more for ordinary operating expenses than did the privately owned plants.

In 1921, out of every \$100 of revenues, the privately owned electric plants expended for ordinary operating expenses, excluding taxes, \$63.93 as compared with an expenditure of the municipal plants of \$73.44.

In 1921, out of every \$100 of revenues, the privately owned water plants expended for ordinary operating costs, excluding taxes, \$45.39 as compared with an expenditure by municipal water plants of \$73.86.

I have made a sufficient study of the comparative results of operation in other states to convince me that the general experience throughout the country coincides with the experience in Indiana.

It must be apparent to the unprejudiced student of this question, that the extravagance, waste and inefficiency which is generally found in municipally owned plants is a telling argument against popular ownership and discloses an unhealthy condition of civic affairs.

So-Called Lower Rates Fictitious

I am familiar with the fact that generally the rates charged by municipal plants are slightly lower than the rates charged by privately owned plants. It must be understood, however, that it is impossible to base any conclusions as to the desirability of municipal ownership merely on a comparative rate basis, for a study of the history of municipal plants will almost invariably disclose the fact that low rates have been maintained at the expense of the property itself.

Municipal plants generally have not been well maintained. Depreciation reserves are seldom carried.

A new plant will be built, and there will be great public rejoicing, but soon the public has lost interest in the upkeep of the plant, and the primary public interest centers in low rates. It soon becomes unpopular to talk of increasing the rates, so those who are responsible for the operation of the plant have no choice in the matter. They sacrifice the plant to satisfy the popular demand for low rates.

So it is that in the case of the large majority of municipally owned plants, the time comes when they are run down and the service becomes so impaired that it is necessary to rebuild and rehabilitate the property. And then what happens?

Almost always the city sells its municipal bonds to rebuild the plant, when had the proper course been followed, wise and proper business methods would have required higher rates over the preceding years in order to have enough money to keep the plant well maintained, and to have permitted the accumulation of depreciation reserves to replace the property and units of the property when they were worn out.

Now when bonds are issued and sold to rebuild the plant, all of the taxpayers of the city, regardless of the benefits which they derive from the municipal plant, are assessed. The taxpayers are required to rehabilitate the municipal plant for the benefit of those who during the preceding years have failed to pay rates sufficient to keep up the plant.

In order, therefore, to compare rates, it is necessary in the case of municipal plants, to determine and give consideration to the higher level of rates which would have been necessary had the property been well maintained and proper allowance made for depreciation and other necessary expenditures.

It is apparent, therefore, that because municipal plants do furnish some kind of service at lower rates is no conclusive argument for municipal ownership.

It is a matter of common knowledge that during the war period, it was the boast of many municipal plants that the rates were not increased. From an economic and business viewpoint this was a shameful situation. Before the war, many municipal plants in the Middle West were able to buy coal delivered at less than \$3 per ton. These same plants, during the war period, were forced to pay as high as \$10 or \$12 per ton for coal; and the cost of coal constituted one-half or more of the total operating expenses.

No private business can ever compete with such uneconomic and unbusinesslike administration, and they should not compete.

Cities Deceive Themselves

During these years, the public in these cities deceived

themselves. The public believed or was led to believe that because they owned their own plants they could be operated without an increase in rates.

Today, scores of municipally owned plants are suffering the disastrous consequences of these years of mismanagement.

The failures of municipal plants—is not the record of failures a conclusive answer to the advocate of municipal ownership?

I have with me a record of more than 300 cases where municipal light plants have failed or have been abandoned. In many cases, the plants were sold to private companies. In other cases, the plants were merely shut down and electric current purchased. I am reliably informed that there are at least 500 municipal electric light plants in the United States which have wholly or partially gone out of business. Is not this an eloquent testimonial of the fundamental error of municipal ownership?

There is a very practical and decisive objection to municipal ownership under any form of city government. Several classes of public utilities, in order to serve the public more adequately and at lesser rates have rapidly developed beyond municipal boundaries.

Take for example, the electric utilities. The day of the isolated plant is passed. The modern development which is giving the public better service at lower rates is toward the construction of superpower plants at points where fuel and transportation are cheaper and where there is an abundance of water for condensation purposes—or on streams where hydro-electric power may be generated. These super-power plants are in many cases being located in the open country entirely away from cities. High voltage transmission lines carry the electric energy to many cities, towns and villages.

It will be but a few years until the entire country will be webbed with inter-connecting high power transmission lines. The isolated power plant will be no more, and the small generating station will disappear. Maximum economies and efficiencies will be developed, service will be better and rates lower. New industries will spring up and old ones will be able to expand, and out of it all the public will be the greatest beneficiary.

Municipal ownership of electric plants would make this notable achievement impossible.

The telephone is another striking example of the impracticability of municipal ownership, and what I have said about the electric industry applies measurably to that of railway, gas and other utilities.

The cry for municipal ownership was occasioned by conditions which have long since been changed. The principal reasons formerly assigned for municipal ownership no longer exist. State regulation of public utilities has come and has proved itself effective. Public service commissions, by their notable achievements, have given a conclusive answer to the proponents of municipal ownership.

Regulation Has Corrected Faults

The states have provided a scientific, equitable and speedy method of regulation. The size of the state removes its supervision from local prejudices and yet is sufficiently close to both the city and utility to enable it to regulate intelligently and equitably. Wise and unprejudiced state regulation of a local utility is a distinct advance over either locally regulated or owned utilities.

State regulation has corrected the chief abuses which the original advocates of municipal ownership believed to exist. The state is the sovereign, and from it must come whatever power a municipality may have. The state is the logical unit to provide regulation for public utilities.

Municipal ownership is nothing more or less than an exaggerated form of municipal regulation, for the city admittedly does not go into the utility business to make money. Few will argue that we should now abandon state regulation and go back to local control.

There is a form of public ownership of utility properties which gives the public the full benefit of wise and prudent business management, individual initiative and efficient and economic operation. This character of public owner-

ship is that in which the public, through its individual members, becomes the owner of the stocks and the bonds of the utility property—consumer ownership of well managed utilities which will result in better service at lower rates than popular ownership with its uneconomic policies, mismanagement and the multitude of attendant ills.

The problem of municipal ownership is not to be decided by consideration merely of the practical phases. To me, the problem is far more fundamental, it is fraught with sinister perils to the institutions of our government itself. We should not and we can not close our eyes to the fact that with the modern economic and social developments, the question of municipal ownership must be approached not as an unrelated and isolated question, but it must be approached as one phase of a significant tendency in American life, the continuance of which may lead to the ultimate destruction of our republican form of government.

What difference is there fundamentally between the ownership by a city of an electric plant which serves those living within the confines of that city, and the ownership by the State or the National Government of the agencies of city and national service?

Every reason for municipal ownership of a public utility is, by the same token, a reason for nationalization of all necessary industries. Are we ready to take this step? Are we willing to give up the liberties and freedom of individual action which we now possess?

We no longer hear as much about municipal ownership of telephone or electric properties, due to the fact that these utilities are no longer confined to city limits, but already we do hear a far more sinister demand for state ownership of electric and telephone utilities.

Where will they stop? Where will the advocates of municipal ownership halt?

Will they in their zealous pursuit of a vain idealistic fancy, blindly strike at the foundations of our established government? Do they propose to carry their ill-premised argument to the inescapable demand that the cities and other governmental units should own and operate all industries and business which now or hereafter may be declared public utilities?

The advocate of municipal ownership proceeds on the fallacious theory that because the state finds it necessary to regulate a business, it immediately follows that the city should own it.

The several states of the union, due to the necessity for regulation, are continuously creating new classes of public utilities. In addition to those which we generally contemplate, many states have declared grain elevators, warehouses, motor busses and others to be public utilities. If the ownership advocate is right, these likewise must be publicly owned and operated.

Ownership of All Business Goal

Many states, doubtless, will find it necessary in the future to regulate other business enterprises. Let us assume that a state believes it necessary to regulate the price of coal, steel, clothing, ice and food products as well as other necessities. Now, if the municipal advocate is right about electric, gas, street railway and other utilities, he must, in such a situation, demand the public ownership and operation of these additional enterprises.

Is it not but a step from local ownership of utilities to state and national ownership of all necessities, and is this not what we know as communism, under which our government cannot survive? Is this not the socialization of all industries which already has brought calamity to other nations?

I cannot believe that the ownership advocate would stand for such a revolutionary development in American life, and if he does not profess or stand for such a revolutionary development, he is fundamentally wrong in advocating the public ownership of those enterprises which have so far been declared to be public utilities.

However that may be, the path which the municipal ownership advocate is blazing leads inevitably to govern-

ment ownership of all public necessities and to the destruction of the whole fabric of our national government.

He will honestly deny this assertion, but the trouble is that he does not know where he is going. He has ignored the broader aspects of the question and does not realize that, unwittingly, he may be lighting the torch, which, fanned by an aroused spirit of unrest and discontent, may start the fatal conflagration which in our land, the torch bearers of more revolutionary purposes have so far failed to kindle.

Continuous Inventory of Fixed Capital

By H. C. DAVIDSON,
Chairman, Consolidated Gas Co. of New York

THE necessity of identification of the physical units of plant and property with the construction expenditures as shown by the books is generally recognized, and has become increasingly evident during the last few years, occasioned by fluctuating price levels which have brought the great majority of gas companies before some tribunal for adjustment of rates, and have made essential a record identifying in some form the property represented by the values upon which a return is asked.

During the year 1921 a canvass was made of the larger member companies to ascertain the extent to which the continuous inventory was in use, and to learn the attitude of companies not maintaining such a record. The replies indicated a very general interest in the subject, although but few companies had actually installed an inventory record. From the reports of systems in use there appeared to be no standard as to detail which should be shown in the inventory, and no generally adopted formula as to the treatment of overhead and intangible costs.

It was also apparent that the interpretation by the companies of what constituted a continuous inventory was not uniform, and that in some cases records of fixed capital based on job orders, identifying the construction costs by jobs, but lacking entirely the details necessary for an inventory, except by reference to the original records, were deemed to be and reported as continuous inventory systems.

This Committee has defined the continuous inventory of fixed capital as a progressive record describing in complete detail the physical units of property in such form as to provide complete identification of the property itself. Carried to its logical conclusion, such an inventory should give complete specifications—dimensions, weights, foundations, connections, etc.,—either in full in the inventory or by reference to blue prints or engineers' field records on file in the Construction Department, and should provide the full data from which a valuation might be made by the application of unit prices to the inventory. An inventory in this complete form must necessarily be a voluminous record for the average plant, the maintenance of which will require an engineering knowledge of conditions at the plant, as well as a knowledge of accounting practices, and a staff adequate to keep the inventory in conformity with the actual property in respect of every item.

The advantages to be obtained from a continuous inventory, it is believed, are generally recognized, and as the subject was discussed in the 1921 report, only brief reference is necessary at this time. The chief uses of a continuous inventory may be summarized as follows:

- (1) For the identification of the existing property at any time represented by the expenditures as shown by the books.
- (2) For proof of the physical property, to substantiate the cost or to prove reproduction value under all circumstances where proof of the property is necessary.
- (3) To provide full details for determining the correct amounts to be written out of Fixed Capital, representing property withdrawn.

- (4) To furnish information in connection with property reports required by taxing authorities and regulatory bodies.
- (5) To furnish information in connection with insurance valuations.

The principal question involved in connection with the installation of a continuous inventory is the relation between the cost of keeping such a system and the value of the information and its use. The controlling factor as to the value of an inventory record in greater or lesser detail is the need of the information it supplies, which depends upon the individual conditions of each company, and it is not within the scope of your committee to make recommendations urging the adoption of an inventory under any "ready-made" plan.

In companies where the identification of the physical property with the books is impossible or incomplete—as in the case of the destruction of records by fire, or the lack of details resulting from a merger, etc.—and proof of the value or cost of the property can be established only upon a reproduction basis, the need of an inventory may be imminent at any time. Under such conditions the establishment and maintenance of a continuous inventory with complete specifications may be warranted, whatever its cost.

In companies having complete costs available from its inception, itemized by projects or jobs, from which records a detailed statement is maintained currently, or could be readily prepared if required, there is less occasion for a complete inventory, as the statements of fixed capital would probably serve every purpose for ordinary requirements.

The advisability of the adoption of the continuous inventory system, the plan adopted and degree of completeness to which it is carried, are therefore matters of executive policy dependent on existing conditions in each company.

The inventory based on original cost, where possible, probably provides the most useful record, in that it combines with the inventory data, proof of the correctness of the company's investment. Original cost, if it represents expenditures judiciously made, is an element usually considered in the determination of the value of a property, and is frequently required if the figures are available, even when reproduction values are claimed.

Assuming that the continuous inventory system is to be installed in a company which has been operating for a period of years, a complete inventory must be used as a base. If that inventory is made preparatory to the installation of the continuous record, it may be designed initially to follow out the plan adopted. If an inventory already made for some other purpose is used as a base, its existing form will govern to a large extent the plan to be employed in continuing it as a progressive record.

The maintenance of a detailed inventory combines engineering and accounting functions. It should be maintained under the charge of a competent engineer as the data to be gathered is largely of a technical character, but the services of the accountant cannot be ignored, and he should pass upon all matters of classification of the construction charges. In the larger companies the inauguration of an Inventory Department may be desirable in connection with the installation of an inventory, which department should be a medium between the Construction and Accounting Departments. Copies of all records pertaining to changes in the company's property, including contracts, vouchers, work orders or tickets, specifications, pay-rolls, etc., should be available to it. To obtain the maximum benefit from the Inventory Department, the company should invest such department with complete control of its capital accounts, and in addition the department should be conversant with all repairs involving changes in the physical property.

The procedure to be followed in carrying on an inventory will vary according to the accounting practices of a company. In arrangement and classification, an inventory should conform to the system of accounts prescribed by the public regulatory bodies, or in the absence of such to the accounting system followed in the books, and should

meet the needs of the engineer, for whom classification by buildings and contents or by types of apparatus will probably prove most suitable.

A record should be maintained of each construction job or project, subdivided into the classifications desired, with a separate sheet or card for each classification for the accumulation of data in connection with that unit. If a job order system is used, the posting of the details of the construction to the inventory will be made concurrently with charging Fixed Capital for the cost of the completed job. If construction expenditures are charged directly to the capital accounts, the monthly additions will become the basis of posting to the inventory.

A typewritten record upon forms of a standard size, with appropriate printed headings, and punched for a loose leaf binder, is believed to be adequate. It may be found desirable to make the initial entries in pencil in the working copy of the inventory before transferring the data to the permanent records.

For an inventory in complete detail, the separation of the record into three parts, to provide for convenience of reference and elasticity in the space requirements, is recommended, as outlined below.

- (1) The detailed description record. This record should set forth on a separate sheet for each classification a complete description of the labor employed and material furnished, including details as to specifications, dimensions, quantities, foundations, attachments, etc., and each sheet should be cross-referenced by serial number with the page in the summary to which it is carried. If it represents a unit in the installation of a larger project, the description should also refer to the complete project, and a master record is suggested identifying the items making up the entire construction job. In connection with the labor costs, the number of hours employed, graded according to classes of labor, if available, will prove valuable if at some later date a reproduction cost is desired.
- (2) The summary record, combining the individual units by buildings and contents or by functional groups. The description in this record may be summarized in a few lines sufficient to identify each item, showing the cost in one item, cross-reference to the details being made by the serial number.
- (3) The recapitulation of fixed capital by the general classifications, arranged by district and location.

The reports of the canvass made in 1921 showed some companies to be maintaining a continuous inventory as part of the accounts in the Construction Ledger. If only limited detail is required, such practice may prove very satisfactory in an inventory based on original cost. The Committee believes, however, that under the average conditions a more continuous inventory, even if restricted to the information available to the Accounting Department, will be found more convenient as a record independent from the books of account. If it is designed to include full engineering details, its incorporation in the construction ledger will not be practicable. An inventory based on an appraisal usually differs in form from the grouping of the accounts, unless it is the origin of the book figures, and under these conditions, if maintained as an accounting record, is more easily continued as a separate record. One company reported the abandonment of its detailed fixed capital figures as a part of its accounts, to eliminate clerical detail occasioned by it from the rush period incidental to the monthly closing of its accounts.

For the construction records of mains and services, job orders are recommended giving complete data as to location, size, length and depth of cover, together with detailed labor and material costs, type of paving disturbed and cost of restoration. When possible it is desirable that the labor costs be segregated between the cost of earth

excavation, rock excavation, backfilling, pipe laying, caulking, superintendence, etc. From these job orders summaries of the information desired for complete statistics as to average costs by sizes may be compiled. A sketch of the main in relation to the curb and other sub-surface construction, should accompany each job order. If main maps of the company's distribution system are kept, these sketches will also furnish the data for entering the changes.

In respect of overhead items and intangible costs in an inventory, there appears to be no standard rule governing the practices followed, except for the few major items which have become generally accepted by the accounting authorities. The amounts included by appraisal experts have not been uniform, either as to the items to be included, or as to the basis of allowance for each, with the result that Court and Commission findings, based upon the proofs offered, have established precedents in individual companies differing widely from other companies, and the continuation of property records along the lines thus laid down in specific cases tends to make permanent the lack of uniformity.

Good accounting practices require the inclusion and allocation of overhead items to individual projects as far as possible, but there are some items necessarily impossible of specific allocation, and others, such as engineering and superintendence, insurance, etc., which may be apportioned to the individual jobs or be carried in separate accounts under the indirect costs, according to the policy adopted. In the initial construction or upon large additions the overhead costs may be comparatively easily segregated and are usually capitalized, but in minor extensions are usually buried in operating expenses.

It is the opinion of the Committee, therefore, that no standard routine can be recommended for the treatment of overhead and intangible costs of construction in a continuous inventory. Provision should be made, however, in designing an inventory for these intangible items, some of the more important of which are listed below:

- Organization and Development
- Engineering and Superintendence
- Interest during Construction
- Taxes during Construction
- Administrative and Miscellaneous Expenses during Construction
 - Superintendents
 - Inspectors
 - Legal Expense
 - Insurance
 - General Expense
 - Office Expense, including clerks, timekeepers, paymasters, etc.
 - Watchmen
 - Express, freight, cartage, etc., not applicable to specific apparatus
 - Injuries and Damages
- Temporary Structures
- Buildings Demolished
- Repairs during Construction

The Committee has concluded that no standard routine or standard practice can be applied to the industry for the installation and maintenance of a continuous inventory. Such a record, whether it be carried on as an accounting function or be extended to cover all that might be required both for engineering and accounting purposes, is essentially a cog in the machinery of a company's property records, which must be coordinated with the other parts. No attempt has been made to present statistics of the average cost of such a record, as the expense may be negligible or large according to the detail recorded, and will depend upon the general accounting practices followed.

The Committee has therefore confined itself to the suggestion of practices which may serve as a guide and strongly urges the companies to give consideration to the subject of adequate identification of their property accounts.

The Outlook for Electric Public Utilities

By FRANK W. SMITH
President National Electric Light Association

THE outlook for electric public utilities during 1923 is indeed encouraging. The electric light and power companies of the country are in splendid condition. It is a recognized fact that the properties of these companies are maintained in excellent repair and at the highest point of operating efficiency, insuring uniformly satisfactory service and economic production. It may be said generally that these companies are in like condition financially. Despite all the handicaps which have militated against a complete return to normalcy in other industries, the electric public utilities stand out in marked contrast in that they withstood the assaults of depression and have maintained their ratio of growth constantly for the past fifteen years. The industry is still youthful—another ten years must elapse before the electric light and power industry of the country will have reached the half century mark in this country, so that the ebb and flow of industrial affairs has, as yet, had but little effect upon this industry.

Record of Growth

The output of electricity in the United States from electric public utilities was, in 1907, approximately 6,000,000,000 kilowatt hours; by 1912 this output had doubled that and five years later, or in 1917, it was over 25,000,000,000 kilowatt hours. This year, 1922, it is estimated that approximately 51,000,000,000 kilowatt hours of electrical energy will be held. Notwithstanding this marvelous record, the indications are that the same ratio of growth will be maintained during the next five years as well.

Fifty-four million hydroelectric horsepower await development in this country and applications for the privilege of developing 18,000,000 of this horsepower are already on file with the Federal Power Commission at Washington. The estimated capital outlay involved in the erection of these water power projects now under permit or license from the Federal Government approximates \$800,000,000 and assuming that the output from the plants will be employed for the same diversified uses as at present, the transmission, distribution and utilization of this energy will involve additional capital expenditures in excess of \$5,000,000,000.

Of course, it is impossible to raise all this money or develop all of these projects in a single year. However, it is predicted that not only will every one of these hydroelectric projects be in operation by about 1930, but that by that time a large number of other hydroelectric projects will also be under way.

Great Future in Store

There is no question about the opportunity for greater and more diversified use of electricity in art and industry, not to mention the enormous sale of electrical devices and appliances, such as washing machines, vacuum cleaners, ranges, flat irons, etc., for the household. Electrical energy for the charging of electrically propelled vehicles is assuming important proportions and the demand for electricity in this field will increase greatly. A great field, as yet hardly touched, is the electrification of the steam railroads.

The constant strife and turmoil which have attended the production and transportation of coal within recent years make it increasingly apparent that in the interest of economy the railroads will have to be electrified; and that coal must more and more be used at or near the mines in huge stations for the production of electricity. Then instead of transporting fuel, electric energy generated at the mines will be transmitted to industry at an immense saving in power cost and with greater efficiency in use. Super power stations of this kind are already in existence and are coming more and more in vogue.

There is approximately 65,000,000 horsepower in locomotives on the railroads of the United States and 26,000,000

horse power in steam engines in industries other than the electrical. While it would not be feasible to supply all of the electrical needs of the country from hydroelectric systems, the complete development and utilizations of the water power now available would mean an annual saving of coal reaching large proportions. There would also be a saving of labor at the mines, with resulting availability of labor, freight cars and locomotives for other purposes.

Economies of Super Power Systems

Coupled with advances in the art is the interconnection of generating systems into so-called super-power systems. The latter have great advantages over the older methods of supplying power from independent stations and the country is gradually being divided into super power zones. By this means whole areas are supplied with electricity and not merely small limited communities. All water powers are made available and the consumption of fuel per unit of electricity produced is greatly reduced. Thus economy is piled on economy and maximum use is made of the investment. In one of these huge stations it is customary to generate a kilowatt hour of electricity for every pound and a half of coal burned, whereas the smaller plants in the cities and factories require from 5 to 10 and even in some cases as high as 20 pounds of coal to produce the same amount of electricity and in addition the coal must be shipped to them.

Interconnected systems or super power zones also are not dependent upon the supply of coal or water in any single district. If the streams embraced in the interconnected system have seasonal variations, it is unlikely that all would be low at the same time. For instance, owing to drought in North Carolina recently it was not possible to supply the electrical needs of the cotton mills and cities in that state from the power plants there.

Now the great steam and hydroelectric stations in North Carolina, South Carolina, Georgia, Alabama and Tennessee are interconnected by large electric trunk lines traversing the five states and in the emergency the shortage of power in North Carolina was relieved by the transmission of power from Alabama over the interconnected lines. These networks are in fact vast reservoirs into which scores of generating stations pour their electrical energy and from which almost any inhabitant of any of the states traversed can draw electricity for any purpose whatsoever.

Interconnected networks of even greater magnitude are to be found in various sections of the country, the middle West being a striking example. On the Pacific Coast, for example, there is an interconnected network stretching from Oregon through California into Mexico. In the electrification of the railroads these interconnected electrical systems will play a most important part because the railroads can tap them for power whenever and wherever it will be necessary and will not be called upon to make great capital outlays for power stations for their own exclusive use.

Industry Requires Large Capital

The expansion and growth of the electric light and power industry depends entirely on the amount of capital which is put into it and its ability to raise this capital. Normally \$1,000,000,000 could be employed annually for the next decade and the power market would still be unsatisfied. However, the industry has not as yet been able to command that much capital yearly although it is fast approaching the mark. Consequently there have been few important changes in basic utility rates during the year.

Public utilities of Indiana were authorized to issue more securities last year than during any year since the organization of the Public Service Commission, according to the annual report of the commission. The commission authorized municipally-owned utilities to issue \$908,500 in bonds during the year, and securities issues by private corporations amounting to \$63,066,355 were approved, making the total amount in securities issued for utility purposes \$63,974,855.

"This is the largest amount of securities ever authorized in one year, says the report, "and reflects new construction,

additions and betterments of public utility property over the state."

Among the large issues of securities authorized by the commission were the following Citizens Gas Company, \$1,925,000; Indiana Electric Corporation, \$10,000,000; Indiana Hydro-Electric Power Company, \$1,250,000; Indiana Power Company, \$1,250,000; Merchants' Heat & Light Company, \$7,205,000, and Northern Indiana Gas & Electric Company, \$5,970,000.

The municipal securities had an average interest rate of 5.44 per cent, while the private corporation issues had an average interest rate of 5.61 per cent.

No immediate stabilization of costs entering into utility operation is foreseen by the commission, according to the report, although it is stated that costs of materials and labor probably will continue above the pre-war level for several years. As operation costs are the chief items entering into rate structures, the observations of the commission in regard to this matter are of special interest.

"During the fiscal year," the report says, "a marked variation has been witnessed in the basic costs of labor and materials entering into the construction and operation of public utilities. It was during the latter part of the calendar year of 1920 that prices reached the maximum upward. During 1921 a marked reduction occurred, which continued during the forepart of the present fiscal year, reaching a minimum in January. Since January a gradual upward trend has been noticed.

"Apparently post-war normal price is merely a matter of conjecture. Engineers and experts in valuation matters who have appeared before the commission have never agreed on what price trend will govern the immediate future, but it appears that prices will continue above the pre-war level for the next ensuing years."

Much interest is being shown by the public, the utility industry and financial people in mergers and consolidations that have been made and are in progress of formation. One of the notable new deals was that by which the Indiana General Service Company, owned by the American Gas & Electric Company of New York, took over the Indiana and Michigan Electric Company with headquarters at South Bend. The Indiana General Service Company already owned and operated properties at Muncie, Marion, Elwood, Hartford City and some smaller towns, and with the northern Indiana cities added to its lists will be one of the largest properties in the state.

The Indiana Electric Corporation, backed by Joseph H. Brewer of Grand Rapids, planned a big consolidation of several properties to be grouped about the Merchants' Heat & Light Company of Indianapolis, the property of the Brewer interests. This project included the building of a big power station in the coal district near Terre Haute on the Wabash river. This plan was turned down by the Public Service Commission on original hearing, and then approved on rehearing. Some of the cities involved took the case to court. The Brewer interests have since organized two groups. One of them, the Central Indiana Power Company, includes the Merchants' Heat & Light Company, and is proceeding with the construction of a power station near Terre Haute. At the same time a second consolidation, to be known as the Northern Indiana Power Company, has been planned to include the Indiana Railways & Light Company of Kokomo, the Noblesville Heat, Light & Power Company, the United Public Service Company of Rochester, Logansport Utilities Company, Sheridan Water, Light & Heat Company, Roann Light & Power Company and Wabash Water & Light Company. The Public Service Commission has the petition on this project under consideration. The original merger undertaken by the Brewer interests is known as the Indiana Electric Corporation. All the properties in the several plans were to be purchased.

The most recent consolidating proposal is that of the Interstate Public Service Company, which is owned by the Middle West Utilities Company of Chicago. All the properties concerned belong already either to the Interstate or

the Middle West Company. The petition asks authority to combine under the Interstate Public Service Company; the Hawks Electric Company of Goshen, the Hydro-Electric Company of Connersville, the Winona Electric Light & Water Company, the Southern Indiana Power Company and the Indianapolis & Louisville Traction & Railway Company. The petition estimates the aggregate value of the companies to be acquired at almost \$6,000,000. In completing the transaction the Interstate Public Service Company proposes to issue \$1,600,000 less in securities than the amount now outstanding against the several companies.

Notable Expansion of Commonwealth Edison in 1922

KEEPING pace with the tremendous and constantly growing demand for electric light and power in Chicago imposes a task of great magnitude on the Commonwealth Edison Company. This great demand for power is significant and encouraging, for it indicates the greatness of Chicago and the expanding condition of its commercial and industrial undertakings.

On February 27, 1922, the authorized capital stock of the company was increased by the stockholders from \$60,000,000 to \$80,000,000.

Additional 5 per cent First Mortgage Gold Bonds to the amount of \$7,143,000 par value were sold on November 16, 1922, after tenders had been received from about twenty banks and investment houses. The entire issue went to Halsey, Stuart & Co., the highest bidders. It is interesting to note that the credit standing of the company is so high that it was able to secure competitive bids for its bonds, like a state or municipality possessing the power of taxation.

On December 1, 1922, Series A, Collateral Gold notes of June 1, 1920, bearing 7 per cent interest, were redeemed. This issue amounted in par value to \$5,000,000.

During the year the outstanding capital stock was increased from the \$55,465,000 of January 1, 1922, to \$60,000,000. On December 8, 1922, the Directors having received the approval of the Illinois Commerce Commission, authorized the issuance of additional stock to the amount of \$12,000,000 or 20 per cent of the existing stock. This new stock is offered at par to stockholders of record on December 33, 1922, in proportion to their recorded holdings on that date. Thus the new stock is offered to existing stockholders at par in the ratio of one new share to five old shares. These rights will be valuable, for the company's stock closed on the Chicago stock exchange on December 8, 1922, at 136 $\frac{3}{4}$. The new stock may be paid for in four quarterly installments or ten monthly installments.

President Insull is credited with the statement that, in his belief, the Directors will recommend to the stockholders that the capital be increased from the \$80,000,000 now authorized, to \$100,000,000 at the annual meeting on February 26, 1923.

The foregoing paragraphs indicate the almost constant financing needed to meet the demand on the company's resources. The "customer ownership" movement of recent years has been an important development. It enables the company to sell its stock in small lots, and often on time payments, directly to its customers and the public generally. This is public ownership of the best kind, for it is non-political ownership with private management enabling the people to have a direct proprietary interest in one of the principal utilities and encouraging thrift. Unfair attacks will be quickly resented by the citizen owners of the company. This placing of the stock among the people was formerly attended to by the Investment Department, but the latter has been succeeded by the Utility Securities Company, 72 West Adams Street, which acts as the agent of the Commonwealth Edison Company and other utility companies in selling their securities direct to the public.

The Commonwealth Edison Company was formed by consolidation of Chicago Edison Company and Common-

wealth Electric Company in 1907. The growth of the "customer ownership" movement in recent years is shown by the following table:

Number of Stockholders Commonwealth Edison Company.

December 31, 1908.....	1,317
December 31, 1913.....	2,045
December 31, 1918.....	5,840
December 31, 1919.....	6,517
December 31, 1920.....	11,580
December 31, 1921.....	23,983
November 15, 1922.....	25,342

Generating Station Extensions

About \$15,000,000 was spent by the Commonwealth Edison Company in 1922 in additions or betterments to its plant. About half of this was expended in additions or improvements to generating stations.

The newest of the company's existing stations is the Calumet Station on East 100th Street at the Calumet River in South Chicago. The first section of this, consisting of two 30,000 kilowatt generating units, went into service about the first of 1922. Work on the second section, also consisting of two 30,000 kilowatt units, was begun immediately. The first of these two new units is about ready to go into service, and the other will be put "on the system" in January, 1923. Thus the present rating of this generating station is, or soon will be, 120,000 kilowatts. But this is not all. On October 3, 1922, the Directors authorized the construction of the third section of the Calumet Station, work to be begun as soon as the second section is finished. This third section likewise will consist of two 30,000 kilowatt generating units. Unless the unexpected happens, it will be placed in service in the late summer of 1923, and Calumet Station will then be capable of supplying 180,000 kilowatts of electrical energy.

At the Directors meeting of October 3, 1922, the important step was taken of authorizing the building of a new generating station on the West Side, to be known as Crawford Avenue Station which will be, when completed, the largest electrical generating station in the world. At present the Fisk Street Station of the Commonwealth Edison Company at West 22nd and Fisk Streets, holds this distinction, with its rating of 240,000 kilowatts. But the new station is planned to consist of ten generating units each of 40,000 to 60,000 kilowatts in size. Thus the completed station will be not less than 400,000 kilowatts in rating and may reach a much larger figure. This plant will be erected on land fronting on Crawford Avenue and extending south from West 33rd Street to the Chicago Drainage Canal. Much of the land for this station was purchased several years ago in pursuance of President Insull's policy of looking far ahead. It is planned to use a steam pressure of 450 pounds in this station, which, as engineers will recognize, is a very high steam pressure for a great electric generating station and indicates the tendency to utilize the economies of higher steam pressures.

Some preliminary work for Crawford Avenue Station has already been begun. It is planned to start more active operations in 1923, and it is expected that two Crawford Avenue Station units will be in service in 1924.

While the work of extending Calumet Station has been actively in progress during 1922, improvements have also been made at Fisk Street, Quarry Street and Northwest Stations, three of the company's great generating stations which, with Calumet Station, are the principal sources of the electrical energy at the present time. Where it is possible to increase reliability by the use of the most modern devices, the improvement is made.

With the completion of the second section of Calumet Station the Commonwealth Edison Company's generating equipment, including storage batteries and excluding purchased energy, is rated at 669,000 kilowatts or 900,000 horsepower. This company is indeed a giant among the electricity supply companies of the world, and it will be only a very short time before the 1,000,000 horsepower mark in generating capacity is reached, the company pressing on to a 2,000,000 horsepower rating.

Substations and Other Extensions

Electricity is produced in the steam driven generating stations, and, generally speaking, is transmitted to substations, whence it is distributed for local consumption, usually being reduced in pressure and sometimes changed from alternating current to direct current at the substations.

A new substation, the West Adams Street substation, is being built at 750 West Adams Street. Here there will be two 4,000 kilowatt synchronous converters, also a storage battery. The South La Salle Street substation at 707 South La Salle Street, is under construction. Here there is to be one synchronous converter of 4,000 kilowatts, provision also being made for a storage battery. A temporary structure for two synchronous converters has been erected at the corner of East Lake Street and North Wabash Avenue.

A building to house a new switch center at the 56th Street substation (56th and Wallace Streets) has been constructed.

During the year additions have been made at 21st Street substation, South Canal Street substation, Ohio Street substation and Troy Street substation. Semi-outdoor substations were erected on Prairie Avenue and Armitage Avenue.

Of underground cables 110 miles of high tension transmission lines, ranging from 12,000 to 33,000 volts, the last named the highest voltage used in the United States in underground cables, were laid in 1922. During the same period 30 miles of 4,000 volt cables and 45 miles of low tension down-town feeder cables were laid. This is in addition to about 60 miles of overhead distribution lines.

A tunnel was built under the Calumet River at East 100th Street, to connect Calumet Station with the Chicago territory east of Calumet River and with the northwestern corner of Indiana.

Meters and lamps were other items requiring large expenditures.

Present Growth and Future Expansion

On January 1, 1922, the number of customers served by the Commonwealth Edison Company was 536,982. It is estimated that the number served on January 1, 1923 (with December estimated), will be 611,000. This is an increase of nearly 14 per cent.

The output for 1921 was 1,928,271,940 kilowatt hours.

Using the actual figures for the first ten months of the year and estimating for November and December, it is believed that the output for 1922 will be 2,200,000,000 kilowatt hours. This shows an increase of 1922 over 1921 of a little over 14 per cent.

The demand for electrical energy in Chicago seems to be insatiable.

In the next five years it is believed that at least \$100,000,000 of new capital will be required to finance the extensions needed to satisfy Chicago's demand for more and still more electric power.

Hydro-Electric Development in Manitoba

A HYDRO-ELECTRIC development project on a big scale is at present being carried out on the outskirts of the city of Winnipeg. A power plant with a capacity of 75,000 h.p. is being built on the Winnipeg River by the Manitoba Power Co., Ltd., of which Sir Augustus Nanton is President.

Work was started in September, 1921, and although its construction will not be actually completed until two years hence, operations are proceeding ahead of schedule. It is anticipated that 10,000 or 15,000 h.p. will be available by January 1. Over 1,000 men have been continuously employed.

At Great Falls several falls have been included in one concentration by the construction of the dam and power house. The general scheme of development therefore comprises a dam for raising the water and a power house for

utilizing the entire flow of the Winnipeg River, thus forming a pond or reservoir approximately 2,000 acres in extent, and providing a deep, wide body of water reaching upstream a distance of five miles and flooding out the existing rapids.

The dam at Island No. 2 will raise the present water level 46 feet and by excavating a channel 200 feet wide, 20 feet deep, and about 1,800 feet long at White Mud Falls the entire reach of the river below the power site to White Mud Falls will be lowered 10 feet or more, making a total operating head of 56 feet, for which head the turbines are designed.

In the construction of the dam the rock excavated from the cut at White Mud Falls will be utilized. The dam will have a maximum height of 70 feet, and will be over 4,000 feet in length. In the section of the dam over the island four sluice gates capable of discharging the entire flood flow of the river, will be located, and in the section adjacent to the power house a skimming weir will be placed for discharging ice and other floating materials.

The power house will be 110 feet wide, 380 feet long, and have a maximum height of 145 feet. The foundations will be of reinforced concrete, and will carry a structural steel superstructure with brick curtain walls, provided with steel sash. The roof will be of gypsum block tile of fire-proof construction.

The power house proper will contain six vertical turbo-generators with the usual intake racks, stop-logs, head gates, etc. At the entrance to the scroll case for each unit, head gates will be provided. Stop-logs will also be provided to facilitate inspection and maintenance of the gates. The screens, consisting of heavy steel bars, six inches apart and supported on a steel framework attached to the substructure, will be provided for preventing debris from entering the wheels.

The initial installation is to include a power house building complete to accommodate three units. The substructure of the balance of the power house for the accommodation of the remaining three units will be completed to such a point as is necessary in order that future extension can be made without unwatering expense.

The electrical installation includes two generators, the third to be installed in the space prepared when required, two banks of transformers and switching equipment for delivering the power to the outgoing lines. The dams and other permanent works will be constructed for the complete installation.

The design of the plant is modern in every respect and in physical dimensions and quantity of water used the turbines are among the largest for which contracts have ever been awarded.

The turbines will be of the single runner, vertical shaft, diagonal or propeller type, and will develop 28,000 h.p. when operating under a head of 56 feet and running at a speed of 138.5 revolutions per minute. The shipping weight of each turbine with its accessories is 725,000 lbs.

The generators will be of 21,000 k.w. capacity, of the vertical type, and will generate three-phase, 60-cycle, alternating current at 11,000 volts. The weight of the machine is 660,000 lbs., and each machine will be provided with a direct connected exciter.

The entire revolving element of the unit will be supported by a thrust bearing mounted on top of the generator stator. This bearing has a capacity of 950,000 lbs., and is provided with water cooling coils and the usual valves, thermometers, and indicating devices.

The transformers will be 7,000 k.v.a. each, single phase, water cooled, 11,000-60,000-100,000 volts. The weight of each transformer will be 34,000 lbs. The height from the leads is 172 in., and the floor space covered 93 in. by 55 in.

Each generator will be connected directly to the low tension side of its transformer bank, without any intermediary oil circuit breakers or bus bars, which virtually makes each generator and its transformer bank one unit. The 11,000-volt cables are carried in fibre conduits.

The capital cost for the initial installation, including all permanent works for the complete development, is less

than \$100 per horse power, and the cost for the complete plant will be less than \$60 per horse power, which is undoubtedly the lowest unit cost yet recorded on the continent for a plant of this magnitude.

The plan of development is in accordance with the general scheme of the Water Power Branch of the Dominion Government, and forms the principal link in a chain of developments extending from Lake of the Woods to Lake Winnipeg.

Electric Railways of U. S. Reveal Progress

ACCORDING to Edmund J. Murphy, Chief statistician, American Electric Railway Association, a gradual and very steady improvement may be seen in the underlying condition of the electric railways of the country contrasted with one year ago. The operating ratio is declining, making possible increase in net earnings. The trend, generally speaking, indicates that business conditions are improving and that they hold promise of better things in the future.

In the subjoined statement, which covers the calendar year 1921, with comparative figures for 1920; also comparative figures for the four months ended April 30, 1922, with corresponding period in 1921, it is shown that while operating revenue has not substantially increased, operating expenses have been further cut down, resulting in a net revenue considerably better than that which ruled in 1920. During 1921, the operating revenue for some 81 standard companies operating electric railways was \$335,842,782. This contrasts with \$334,889,712 operating revenue in 1920. The increase is slightly better than \$1,000,000, but operating expenses have been reduced from \$258,706,626 in 1920 to \$250,332,078 in 1921, or in round figures nearly \$8,400,000. This saving in operating expense is also reflected in the net revenue which increased from \$76,083,068 in 1920 to \$85,510,704 in 1921.

This betterment witnessed during the latter part of 1921, has kept up in 1922, and the operating ratio has declined nearly 47/100 of one per cent. Out of a total operating revenue of \$108,646,885 during the first four months of 1922, which was a loss of nearly \$4,000,000 contrasted with the corresponding period of 1921, operating expenses were so reduced that the net revenue increased from \$26,823,077 in 1921 to \$31,149,576 this year.

The following tables contrast operating revenues, expenses, income, etc., for some eighty-one leading electric railway systems of the country, in 1921 and the first four months of 1922:

During 1922 public utility securities approximating \$1,000,000,000 in value were offered in the security market. Of this total amount more than \$600,000,000 was for the electric light and power industry, half of it being applied for refunding purposes and the other half for new construction and extensions to existing systems. In addition the electric public utilities themselves through customer ownership campaigns sold approximately \$175,000,000 worth of junior securities, so that the total raised this year for all purposes will exceed \$750,000,000.

As indicative of the stability and increased popularity of the securities of electric light and power companies attention may be directed to the decreasing rate of interest at which the bonds are sold. In August, 1920, the average yield on electric light and power bonds was 8.25 per cent. Due to continued earning record, greater proportion of junior securities and a more favorable market the average yield of electric public utility bonds in November, 1922, was 5.82 per cent. It is the expectation that this rate may be still lowered by providing a greater ratio of junior securities and by properly safeguarding all future issues.

Electric public utilities have for some years now adhered to a policy of selling stock to employees and customers on a partial payment plan, the idea being to gain strong local representation and support. This customer ownership

of public utility securities is an important element as one of the necessary means of raising capital and aside from this important monetary consideration, the benefits to be derived from these sources are two-fold.

First, ownership of stock makes for greater interest and efficiency on the part of the employee and customer ownership has a very stimulating effect on the management and on the excellence of the service rendered. Second, it makes for real ownership as distinguished from political ownership. The greatest deterrent to the socialization of the electrical industry in the State of California at the last election was the fact that the electric public utilities had 101,000 stockholders residing in the state with the result that the attempt to foist political ownership of the water powers on the people of California was overwhelmingly defeated.

The electric light and power industry has the keenest interest in keeping all of its financial transactions clean and they must ever be alert in the flotation of stock issues through customer and employee ownership to see to it that securities are issued on a sound and proper basis. The Public Service Commissions having control of capital issues of public utility companies, together with the interest of the investment bankers and the integrity of the industry as a whole, all give assurance that this will be done. Not only should sound securities be sold to customers of these utility companies, but in so far as it is humanly possible, dividends should be maintained and paid.

With the determination of the industry to police itself and with other proper safeguards, it is anticipated that securities of public utility companies will become legally available for investment by the savings banks of the country throughout the several States, where they are not now legalized.

With the ever widening market coupled with the stability of the investment itself, although the problem is a large one, it may be expected that industry will be kept supplied with sufficient funds for its proper development, a development which means so much to the prosperity and welfare of our country.

Menacing State Ownership Projects Defeated

TWO state ownership projects involving many millions have been defeated this year by popular vote. A third attempt is expected by students of government to mark the end for a time of this form of raid on public financing.

By a vote of more than 2 to 1, California voters defeated an attempt to obtain a proposed constitutional amendment which would have created a state water and power board with almost unlimited authority in the construction and operation of electric plant and transmission systems. This board would have had authority to issue up to \$500,000,000 of bonds, backed by the credit of the state. The measure was regarded as the most far-reaching communistic enterprise ever placed before the voters of an American state. A vigorous political campaign was carried on in its behalf. The opposition came from civic, industrial and financial organizations and from property owners, particularly those having homes who would have seen taxes greatly advance.

The South Dakota project was much smaller in scope and aimed at state development and operation of a hydro-electric plant on the Missouri river near Mobridge. It was proposed also to construct a system of transmission lines to serve cities and towns in the eastern part of the state. Voters were asked to authorize an issue of \$16,000,000 of state bonds. This, like the California proposal, met defeat.

Next will come such an effort in the approaching session of the Georgia legislature, where the right to issue bonds without any limit is sought to achieve state ownership of utilities. The program as drafted would give over the utilities to political appointees for purposes of operation and tax money would be permitted to make up deficits in revenue.

UTILITIES POWER & LIGHT CORPORATION

DURING the year the subsidiaries of this Corporation report substantial increases in their earnings. The activities of the Corporation include an addition to its list of successful utilities by assuming control of the Consumers Power Company, a recently incorporated company operating in southern Indiana cities of Princeton and Oakland City and vicinity. The development of this territory will be provided for by an electrical transmission system that will make central station service available to the large new coal fields in Pike and Gibson counties, Indiana. These coal fields are destined to become one of the very largest, if not the largest in the state of Indiana. The Consumers Power Company has negotiated a long term contract with the Indiana Power Co., the latter being one of the principal subsidiary companies of the Utilities Power & Light Corporation, for power to be delivered from the large central station power plant of the Indiana Power Co. at Edwardsport, Indiana.

In addition to increased general power business over three hundred miles of high voltage transmission line, the Indiana Power Co. reports considerable increased sales of energy to other utilities, among which are numbered: Central Illinois Public Service Co. (an Insull property), Wabash Valley Electric Co., Martinsville Gas & Electric Co., and the Knox and Sullivan County Light & Power Co. No inconsiderable part of the business of the Indiana Power Co. is the large coal mines served in the coal mining districts south of Terre Haute, Indiana. However, because of the diversity in the kind of business served, it is important to note that the effect of the recent general coal strike had little effect on the Company's earnings. The Company has been very successful in selling additional capacity to the cities and towns served, so that, generally speaking, its day and night load is very well balanced, all of which makes for low generating costs, and this is one of the principal reasons for the splendid success of this Company.

Another one of the principal subsidiaries of the Utilities Power & Light Corporation is the Interstate Power Company, operating in southern Wisconsin and northeastern Iowa. The business of this Company is constantly growing and reflects the established conditions of the rich territory served. The business of the Interstate Power Company is stabilized, so that a healthy increase is insured year after year in keeping with the growing need. Electrical energy is produced both by steam and the Company's hydro-electric plants.

Invest in a Growing Industry and Profit

THE only kind of a business to invest in is in one that is growing and has a growing market for its service or products. That is one reason why public utilities make the most attractive fields for safe investment.

The American people during the last ten years con-

sumed three times as much gas as they did during the preceding decade, sales for last year touching a new high figure of 326 billion cubic feet, an increase of seven billion cubic feet over 1920 and twenty billion cubic feet over 1919. These figures were compiled by the American Gas Association, which in this connection issues the following statement:

"A few years ago gas companies thought they had reached the limit of their business when they sold annually 1,000 cubic feet per capita. The demand has grown until today it is 3,000 cubic feet per capita. The most remarkable feature of this growth is that during the years 1901 to 1911 gas sales increased 30 per cent, while during the years 1911 to 1921 the increase, jumped to 80 per cent.

"Today the gas industry faces the greatest development of its history. Demands for service are increasing so fast that this year it will take hundreds of millions of dollars of new capital to meet them. During the year 1921 alone the industry took on 363,000 new customers, added 314,000 meters to its service facilities, built 1,000 additional miles of gas mains and increased the number of domestic appliances in use by 370,000 ranges, 150,000 water heaters and 144,000 space heaters."

46,700,000 persons in the United States are now served with manufactured gas through 65,500 miles of mains and 9,290,000 meters, the gas being used in 7,040,000 cooking appliances, 1,570,000 water heaters, 1,258,000 space heaters and 8,800,000 incandescent burners.

"Despite the wonderful strides that our business is making, we are visualizing a time when solid fuel will no longer be used in our thickly populated cities, when coal strikes, transportation difficulties and abnormal fuel prices will have lost their terror for the consumer; when the smoke and grime of the cities, laden with disease and causing great loss, will have been done away with. This is the task of the industry in the future. Its progress will be measured by public co-operation."

PUBLIC UTILITY STOCKS OF MIDDLE WEST

High, Low and Latest Quotations of Year

The following quotations showing the high and the low prices for public utility stocks operating in Chicago or the middle west for the year have been furnished by Lester, Carter & Co. as of December 26, 1922:

Name of Stock	High	Low	Dec. 26
Amer. Light & Traction Co. Common.....	150	104	135
Amer. Public Utilities Co. Common.....	18	10½	12
Amer. Public Utilities Co. Preferred.....	36½	31½	32
Central Illinois Public Service Co. 6% Pfd.....	89½	70	88½
Chicago Elevated Rys. Co. Common.....	3	½	½
Chicago Elevated Rys. Co. Preferred.....	12½	1¼	3½
Chicago City & Conn. Rys. Common.....	2½	¾	¾
Chicago City & Conn. Rys. Preferred.....	9½	1½	4½
Commonwealth Edison Co.	140	114½	132
Illinois Northern Utilities Co. 6% Pfd.....	87½	71	83
Middle West Util. Co. Common.....	58¾	20½	46½
Middle West Util. Co. Preferred.....	88½	77½	84
Middle West Util. Co. Preferred.....	106	82	104
Public Service of Nor. Ill. Common.....	108	80	103¾
Public Service of Nor. Ill. Preferred.....	98	81	98
Standard Gas & Elec. Common.....	20¾	13	194
Standard Gas & Elec. Preferred.....	50	43	48¾
United Light & Rys. Co. Common.....	73½	26	70¾
United Light & Rys. Co. 6% Preferred.....	83	67	76½
United Light & Rys. Co. 7% Preferred.....	92¼	75½	89

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Public Service Company of Northern Illinois

THIS Company supplies electricity and gas, and to a lesser extent water and heat, to incorporated cities and villages and farming communities in fifteen counties in Northeastern Illinois.

History and Acquired Properties.—Organized in 1911, the Company is a consolidation of the North Shore Electric Company, Illinois Valley Gas and Electric Company, Economy Light and Power Company, Chicago Suburban Light and Power Company, and the Kankakee Gas and Electric Company. In 1913 the Northwestern Gas Light and Coke Company and the Pontiac Light and Water Company were acquired. The Company later acquired the Toulon Light and Power Company, and the Stark County Light and Power Company. More recently it has purchased the Northwestern Light & Power Company, which operates a central-station electricity-supply system in Mt. Prospect, Illinois, and has extended its lines to furnish light and power to the villages of Western Springs and Winthrop Harbor.

Diversified Nature of the Territory Served.—Present territory served is over 5,800 square miles in extent, and the population of the 15 counties in which the Company conducts its business is well over the million mark. The area supplied surrounds the city of Chicago, extending on the north to the Wisconsin state line and on the east to the Indiana state line. Sweeping in a westerly and southerly direction, it goes as far as the northeastern corner of Peoria County.

Included in this prosperous stretch of country are the manufacturing center in and about Waukegan and the fine residential district between Chicago and the Wisconsin line known as the "North Shore," embracing the cities of Evanston, Wilmette, Highland Park and Lake Forest and including the Government army post at Fort Sheridan and the Naval School at Great Lakes; in the northwest, the towns of Crystal Lake, Barrington, Park Ridge and Dundee lie in the famous dairy belt in and around the Fox River Valley. To the east and north is the lake region, including Fox Lake, Grass Lake, Nippersink Lake, Pistakee Bay and numerous other lakes which are the summer playground of a large numbers of Chicago people. West of Chicago the Company serves the towns of Oak Park, River Forest, La Grange, Maywood, Elmhurst, Melrose Park, Berwyn, Elmwood Park, Forest Park, River Grove, Franklin Park, Bensenville and Addison, and also the manufacturing and industrial interests in Cicero, Argo, Summit, Maywood and Forest Park. On the south the industrial centers of Blue Island, Harvey and Chicago Heights demand a constantly increasing service from the Company on the part of their large manufacturing interests. The Company also serves the city of Joliet, which is rapidly assuming an important place in the state both as to population and industrial development. The cities of Kankakee, Pontiac and Streator, with their brick, glass, shoe and mining interests, are supplied both with gas and electricity, and Ottawa with gas; and the electrical business in such towns as Lacon, Henry, Chilli-cothe, Wyoming, on and near the Illinois River, is growing rapidly. Throughout its territory the Company supplies electricity to 151 cities and villages, and gas to 55. Within its limits is embraced the rich agricultural "corn belt" as well as one of the finest dairy districts in the country.

The Company is particularly fortunate in the industrial and domestic opportunities its diversified territory offers for electric power, and gas for heating. As Chicago grows (and who can doubt its continued growth?) its industrial and population overflow will continue to build up the territory of the Public Service Company of Northern Illinois. In addition, industrial areas in the territory more remote from Chicago exhibit satisfactory growth on their own account.

Nearly 700 miles of electric transmission lines and 900 miles of gas distribution mains form a part of the system.

Business Steadily Increasing.—During the year 1922, the

Company's additional contracted electrical business was the largest on record, the increase being 30,102 kilowatts, an increase so great as to point the need for large additions to the generating capacity of the Company to take care of the growing demands of its customers.

Number of customers			
Dec. 1919	Dec. 1920	Dec. 1921	Nov. 1, 1922
172,488	184,609	199,222	215,886

In order to care for the large increase in demand for electrical energy in its territory, the Company is proceeding with many additions to its generating and transmission capacity. Among the principal additions for which contracts have already been closed are a 33,000 H. P. steam turbine generating equipment to be installed at Waukegan, and a 40,000 H. P. steam turbine generating equipment to be installed at Joliet. Plans are being developed for the construction of necessary transmission lines to take care of the delivery of this large amount of additional energy to the various industrial centers of the Company's territory.

Financial Operations.—On March 1, 1922, the Company paid the remaining \$1,000,000 of its 6% Debentures and on May 25, 1922, redeemed the \$2,000,000 of its 7½% Convertible Gold Debentures issued in 1921 and due March 1, 1936. On July 1, 1922, it paid \$500,000 Cicero Gas Company's First Mortgage Bonds which matured on that date, and on September 1, 1922, it paid \$2,500,000 of its 6% Collateral Gold Notes, Series C. On October 1, 1922, it paid the First Mortgage Bonds of the North Shore Electric Company of which \$1,864,000 were outstanding. The only funded debt of the Company maturing prior to 1927 is its 6% Collateral Gold Notes, Series D, aggregating \$1,750,000 which mature February 1, 1923.

In order to provide funds for its corporate purposes the Company's stockholders in May, 1922, authorized an increase in the Company's capital stock of 50,000 shares of common stock without par value, and the Company has sold, with the approval of the Illinois Commerce Commission, 44,150 shares of this stock. This new stock of the Company without par value is on a parity in all respects with the existing common stock of the Company of par \$100.00.

In June, 1922, the Company sold \$7,000,000 of its First Lien and Refunding Mortgage 5½% Gold Bonds, Series A, issued under a new First Lien and Refunding Mortgage. The Company has heretofore sold its First and Refunding Mortgage Bonds, but hereafter it proposes to sell only its First Lien and Refunding Bonds. The First Lien and Refunding Mortgage is a direct lien upon the Company's permanent property as well as upon certain First and Refunding Bonds of the Company pledged thereunder, and upon all First Mortgage Bonds secured by a first mortgage upon the property of the Waukegan Generating Company which is erecting a power plant at Waukegan, Illinois, the stock of which is owned by the Public Service Company and is also pledged under its First Lien and Refunding Mortgage.

The coupons of the First and Refunding Mortgage Bonds and of the Collateral Notes of the Company are payable in Chicago at the office of the trustee, Illinois Trust & Savings Bank, and also in New York at the Bankers Trust Company.

The coupons of the First Lien and Refunding Mortgage Bonds of the Company are payable in Chicago at the office of the trustee, Continental and Commercial Trust and Savings Bank, and also in New York at the Bankers Trust Company.

Dividend checks of the Company are payable through the Central Trust Company of Illinois, Chicago, and the First National Bank of New York City.

Customer Ownership.—Through the operations of the Company's Investment Department and the Utility Securities Company (the successor to such Investment Department) 72 West Adams Street, Chicago, the number of stockholders of the Company has increased from 2,455 in 1919 to more than 16,000, including those paying on subscriptions at the present time. The policy of the Company is to encourage the ownership of its stock by as many of its consumers as possible. This recent progressive policy of the utility industry is being aggressively carried forward.

LATEST REPORTS OF PUBLIC UTILITY CORPORATIONS IN MIDDLE WEST

CHICAGO CITY RAILWAY CO.

THIS corporation, organized in 1859 and incorporated under the laws of Illinois, owns extensive surface lines on the south side of Chicago, extending from the business center of the city to 79th street, and between the south branch of the Chicago river and Lake Michigan, which embraces (including Southern St. Ry. Co.) 332.45 miles of track and 1,700 cars, including all properties acquired. Electric power furnished by Commonwealth Edison Co. The company operates Calumet & South Chicago and Southern St. Ry. lines. It also acquired within the city limits the Chicago & Southern Traction Co., sold under foreclosure in 1912. Lines outside the city were taken over by the Hammond, Whiting & East Chicago Ry. Certain lines of Chicago & Western Ry. Co. in August, 1919, were purchased by Chicago City Ry. Co., including tracks and franchises in West 63rd St., from South Cicero avenue to Central avenue, in Central avenue, from 63rd street to 63rd place and in 63rd place, from Central avenue to Austin avenue.

Franchises—Extend to Feb. 1, 1927. In 1914 unified operation of all surface lines became effective. The ordinance passed Aug. 22, 1918, providing for consolidation of surface and elevated lines, submitted to the rates on Nov. 5, 1918, was defeated. Eight-cent fares inaugurated July 1, 1920.

Capital—Authorized, \$19,000,000; issued, \$18,000,000. When held by Illinois residents, stock is exempt from personal property taxes; 94.29% of the outstanding stock of this company is held by Chicago City & Connecting Rys. In 1905 J. P. Morgan & Co. interests purchased same at \$200 per share.

Funded Debt—\$33,926,000 1st Mtg. 5s, dated 1907; due Feb. 1, 1927. Int. Feb. and Aug. 1. Amount of issue not limited. Bonds are callable at par upon at least two months' notices in event of purchase by city or its license. Company pays Federal normal Income Tax.

Dividends—1918, 5% 1919, 5%; since then a rate of 6%, payable quarterly, Mar., June, Sept., and Oct.

Earnings—Years ended Jan. 31.

	1922	1921	1920
40% of the residue receipts of Chicago Surface Lines	\$5,531,033	\$4,810,796	\$4,283,769
Deduct: Joint account expenses, interest on capital investment of roads.....	3,567,241	3,473,529	3,477,244
Net earnings of South Side Lines.....	\$1,963,791	\$1,337,266	\$ 806,524
City 55% as per ordinances.....	1,080,085	785,496	443,588
South Side Lines 45% as per ordinance	\$ 883,706	\$ 601,770	\$ 362,936
Less: Southern Street Railway's Company's proportion, as per ordinance....	48,603	33,097	19,962
Company's proportion	\$ 835,102	\$ 568,672	\$ 342,974
Add: Interest on capital investment....	2,751,588	2,739,056	2,705,676
Income from operation.....	\$3,586,690	\$3,307,728	\$3,048,650
Other Income—Deficit	2,744	242	36,170
Interest on bonds and notes outstanding.....	\$3,588,946	\$3,307,486	\$3,084,821
Net income	\$1,759,928	\$1,485,149	\$1,303,937
Add: Surplus at January 31, 1921.....	559,682	454,530	50,640
Surplus	\$2,619,611	\$1,939,670	\$1,354,577
Dividends, 6%	1,080,000	1,079,997	900,047
Surplus at January 31, 1922.....	\$1,539,611	\$ 859,682	\$ 454,530
Percentage of net income to capital stock at par	9.78	8.25	...

Following are comparative balance sheets for the years ending January 31, 1922, and January 31, 1921:

ASSETS		1922	1921
Purchase price of property by ordinance....	\$54,949,651	\$55,005,694	
Current assets	1,019,990	1,063,630	
	\$55,969,641	\$56,069,324	
LIABILITIES			
First mortgage 5% gold bonds outstanding..	\$33,926,000	\$33,926,000	
Notes payable	1,630,745	2,380,745	
Bond interest and accounts payable.....	873,285	902,897	
Surplus assets, represented by equity of \$18,000,000 capital stock, authorized and issued	10,539,611	18,859,683	
	\$55,969,641	\$56,069,324	

Directors: Leonard A. Busby, Chairman; E. R. Bliss,

B. E. Sunny, F. O. Wetmore, H. B. Riley, S. M. Felton, H. B. Fleming.

Officers: President, L. A. Busby; Vice-President, H. B. Fleming; Secretary-Treasurer, F. D. Hoffman; Auditor, John J. Duck.

CHICAGO CITY AND CONNECTING RAILWAYS

THIS is a collateral trust, formed in February, 1910, controlling under a trust agreement, the Calumet and South Chicago Railway, Chicago & Western Railway, Chicago City Railway, Hammond, Whiting & East Chicago Railway and Southern Street Railway, in all 510.16 miles, of street railways on the south side of Chicago and vicinity, including Pullman and Hammond and East Chicago, Indiana.

The capital stock and bonds, as noted in the financial statement below, of these railways have been deposited with the Chicago Title & Trust Co., which was appointed trustee July 1, 1914. The First Trust & Savings Bank of Chicago receives all interest and dividends on the deposits and securities. Collateral trust bonds and two series of participating shares have been issued against the securities so deposited. The agreement may be terminated or another operating agreement or lease may be made effective in the event security owners desire to sell, merge or reorganize one or more of these companies.

Capital—The capital stock authorized and issued consists of 250,000 shares of preferred participation certificates and 150,000 shares of common participation certificates. Preferred shares have no par value but are entitled to \$4.50 cumulative dividends. After the common certificates have received \$4 each in any year, the remaining surplus, not exceeding \$1,000,000 in any year, is to be divided, five-eighths to preferred and three-eighths to common, but the preferred is limited to \$7 per share per annum. In distribution of the trust fund, preferred shall have preference to the amount of \$100 each and dividends.

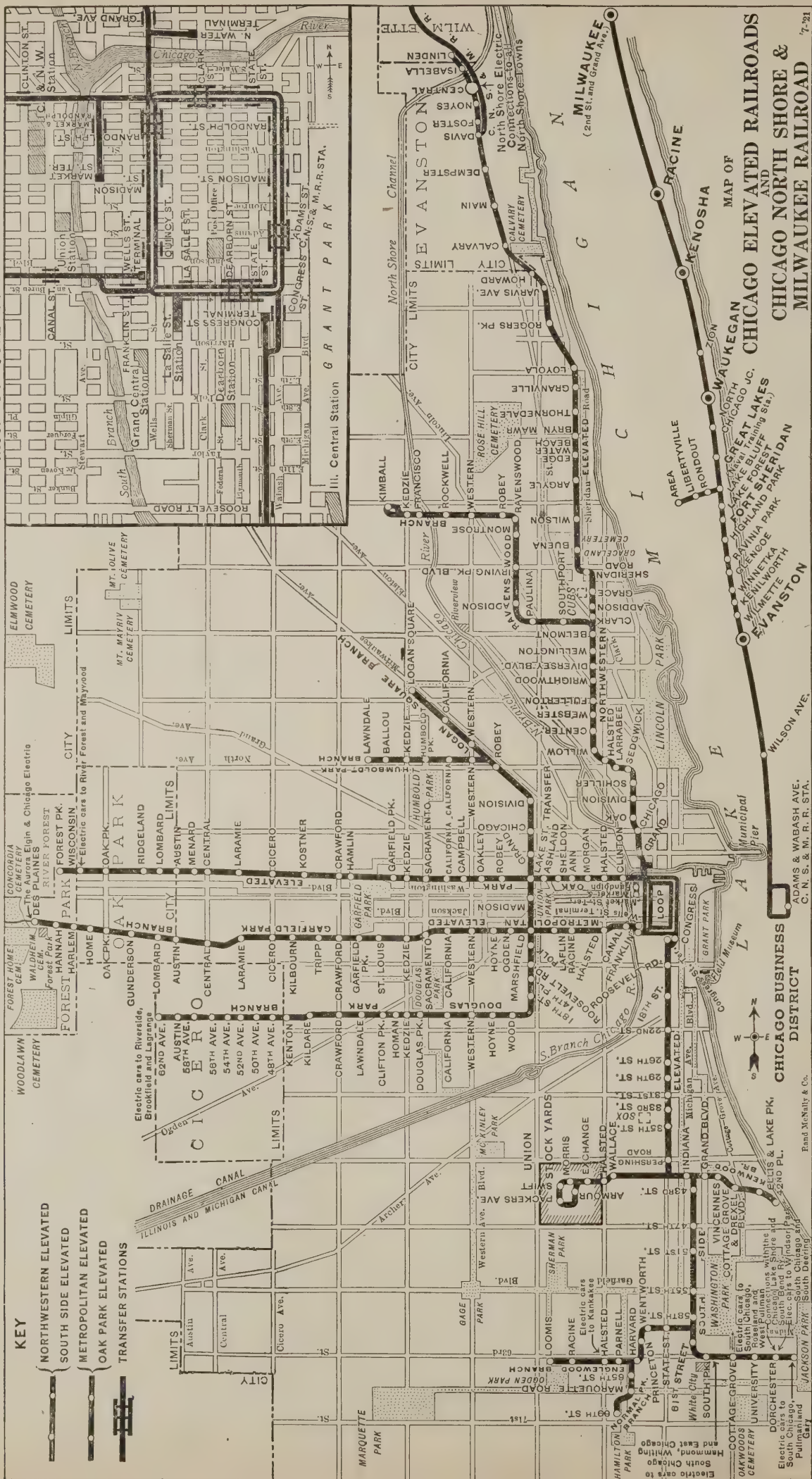
Dividends—On the preferred participation certificates no dividends have been paid since January, 1918. Payments were made as follows: January 1, 1918, \$1.50 per share; July 1, 1917, \$1.50; January 1, 1917, \$2.25; July 1, 1916, \$1; 75 cents per share, January 1, 1916; \$1.25 per share each January and July 1, 1915; \$4.50 per share per annum, from July 1, 1910, to July 1, 1914, inclusive; dividends in arrears as of July 1, 1919, \$13.00 per share. Common participation certificates: None since July 1, 1912; \$2 per share per annum, January and July 1, from July, 1910, to July 1, 1912, inclusive.

Funded Debt—The funded debt consists of \$21,141,000 collateral trust 5's dated 1910, due June 1, 1927, with interest payable April and October 1. They are callable as an entirety at 105 and interest, or in the event of purchase of the Chicago City Railway by the City of Chicago or termination of the trust agreement they are redeemable at par and interest. The authorized issue is \$22,000,000 which had been reduced by sinking fund to \$21,036,000 by December 1, 1922. An annual sinking fund of \$105,000 was provided, beginning July 1, 1915. Securities pledged to the collateral trust 5's are as follows: Chicago City Railway, \$16,971,900, stocks; Calumet & South Chicago Railway (entire issue), \$10,000,000; Hammond, Whiting and East Chicago Railway (entire issue), \$1,000,000 stock; \$1,000,000 bonds; Southern Street Railway (entire issue), \$2,400,000; Chicago & Western Railway (entire issue), \$72,000, making a total par value of securities pledged \$39,443,900 in stock and \$1,000,000 in bonds.

Comparative income statement for three years ending December 31, follows:

	1921	1920	1919
Income:			
Dividends	\$1,290,514	\$1,316,514	\$1,170,635
Interest	90,006	92,962	96,715
Other income	38,467	33,027	20,210
Gross income	\$1,418,988	\$1,442,503	\$1,287,450
Disbursements:			
Interest on bonds.....	\$1,057,050	\$1,062,300	\$1,067,550
Bond redemption	105,000	105,000	105,000

MAP OF THE LOOP DISTRICT



— D — U — T — A — V — E — I — E —

Interest on bills payable.....	2,123	19,778	26,389
General expense.....	37,619	48,288	21,785
Taxes.....	9,240	12,504	15,958

Total disbursements.....\$1,211,033 \$1,247,870 \$1,286,682

Surplus for year.....\$ 207,954 \$ 194,633 \$ 50,767

Comparative financial statements for the years ending December 31, 1921, and December 31, 1920, follow:

ASSETS			
	1921	1920	
Fixed Capital:			
Securities pledged securing \$22,000,000 gold bonds.....	\$31,443,900	\$31,443,900	
Current Assets:			
Cash.....	350,962	36,678	
Bills receivable.....	267,000	267,000	
Other investments.....	274,183	375,879	
Accrued interest receivable.....	26,823	33,310	
Accounts receivable.....	1,515		
Total current assets.....	\$ 920,483	\$ 713,867	

LIABILITIES			
	1921	1920	
Fixed Liabilities:			
Sinking fund 5 per cent gold bonds.....	\$21,141,000	\$21,246,000	
250,000 preferred participation shares, no par value.....			
150,000 common participation shares, no par value.....			
Current Liabilities:			
Accrued bond interest.....	264,262	265,575	
Reserve.....	5,303	5,329	
Excess of assets over liabilities.....	650,918	442,963	
	\$ 920,483	\$ 713,867	

Committee—Leonard A. Busby, S. M. Felton, James B. Forgan, Samuel Insull, John J. Mitchell, Harrison B. Riley, J. A. Spoor, B. E. Sunny, Frank O. Wetmore.

Officers of Committee—Harrison B. Riley, Chairman; B. E. Sunny, Vice Chairman; H. J. Tansley, Secretary and Treasurer.

*CHICAGO ELEVATED RAILWAYS

CHICAGO Elevated Railways is a voluntary association organized June 30, 1911, under Massachusetts laws to acquire the preferred and common stocks of Metropolitan, Northwestern and South Side elevated railways of Chicago. The stockholders in these companies were given cash or stock of Chicago Elevated railways for their holdings. The total mileage of single track operated is 196.33, including Oak Park Elevated System, which is operated independently by Samuel Insull, receiver. The equipment includes more than 1,000 cars. In November, 1913, through routing of trains and universal transfers between all elevated roads were inaugurated. All electric current is furnished by the Commonwealth Edison Company.

Capital—The capital stock consists of 160,000 shares of 6 per cent cumulative preferred and 250,000 shares of common. The preferred is callable at \$100 a share and dividends to which it is entitled in event of liquidation. No dividends have been paid on the preferred since June 1, 1914. Six per cent per annum was paid March, June, September and December 1, from December 1, 1911, to June 1, 1914, inclusive. No dividends have been paid on the common stock to date.

Funded Debt—\$14,000,000 5 per cent gold notes dated July, 1914; due July 1, 1916. Payment was extended until July 1, 1919, when principal and interest were defaulted and a protective committee was formed. The notes are secured by capital stock and approximately \$2,070,100 in promissory notes and indebtedness of the elevated railroad companies, in addition to the claims of the Commonwealth Edison Company.

\$7,000,000 6 per cent debentures, dated July 1, 1914; due 1924. Interest was defaulted July 1, 1919.

The funded debt of the subsidiaries follows:

Metropolitan West Side Elevated Railway Company: \$10,000,000 first mortgage 4s, dated 1898; due 1938; interest February and August 1; first lien on entire property acquired under foreclosure.

\$5,000,000 extension mortgage 4s, dated 1901; due 1938; interest January and July 1; first lien on Garfield and Douglas Park extensions, Wells street terminal and portion of equipment.

\$453,000 Union Consolidated Elevated Railway first mortgage 5s, dated 1896; due 1936.

\$559,333 5 per cent joint equipment notes due 1921 to 1929.

Northwestern Elevated Railroad Company: \$12,500,000 first mortgage 5s, dated 1911; due 1941; interest March and September 1; callable only as a whole at 102 and interest.

\$4,472,000 first mortgage Union Elevated Railroad 5s, dated 1895; due 1945; interest April and October 1; first lien on Union loop.

South Side Elevated Railroad Company: \$8,000,000 first mortgage 4½s; dated 1904; due 1924; interest January and July 1; callable 105 and interest.

\$559,334 5 per cent joint equipment notes, due 1921 to 1929.

\$2,327,000 Chicago Junction Railroad Company 4s, due March 1, 1945; interest paid as part of rental, while not being obligation of South Side Elevated Railroad Company.

The Chicago Elevated Railways Collateral Trust has now been organized, holding as assets the following: \$8,707,500 Metropolitan West Side Elevated Railway preferred stock; \$7,462,800 Metropolitan West Side Elevated Railway common stock; \$4,944,400 Northwestern Elevated Railroad preferred stock; \$4,946,400 Northwestern Elevated Railroad common stock; \$10,231,400 South Side Elevated Railroad Company stock, making stock of the total par value of \$36,292,500; and the following bonds: \$12,500,000 Northwestern Elevated Railroad Company first mortgage 5s, due 1941, and \$1,709,372 invested in securities of and claims against the Chicago and Oak Park Elevated Railroad Company. Its fixed liabilities are the \$14,000,000 secured gold notes dated July 1, 1914; \$7,000,000 ten-year debentures, dated July 1, 1914; 160,000 preferred and 250,000 common participation shares of the Chicago Elevated Railways.

The Illinois Commerce Commission on September 13, 1922, approved a plan of Consolidation of Metropolitan, Northwestern and South Side Companies and subsequent purchase of the Chicago and Oak Park Elevated Railroad. The new corporation will issue \$1,600,000 1st lien and Ref. 7% bonds dated January 1, 1922, and due January 1, 1947. \$17,120,000 6% adjustment Income bonds due January 1, 1952, and \$21,772,500 Capital Stock and will leave undisturbed \$44,838,000 underlying bonds and Equipment Notes.

The new adjustment Bonds and Stock take the place of \$36,292,500 stock and \$5,921,396 floating debt of the present subsidiary corporations controlled by the Chicago Elevated Railways Collateral Trust.

Following are the consolidated income accounts of the Chicago Elevated Railways for the years ending June 30:

	1922	1921	1920
Gross operating revenues.....	\$17,629,020	\$17,788,985	\$15,097,812
Less: Operating expenses.....	13,546,015	13,872,726	11,339,765
Net operating revenue.....	\$ 4,083,005	\$ 3,916,259	\$ 3,758,046
Less: Taxes, city compensation, etc.....	1,316,707	1,056,123	917,655
Operating income.....	\$ 2,766,298	\$ 2,860,136	\$ 2,840,391
Non-operating income.....	147,321	112,456	89,870
Gross income.....	\$ 2,913,619	\$ 2,972,592	\$ 2,930,261
Less: Interest and rentals.....	2,909,358	2,870,576	2,832,443
Net income.....	\$ 4,261	\$ 102,016	\$ 97,818

The comparative balance sheet follows:

ASSETS			
	1922	1921	1920
Road, equipment, etc.....	\$115,669,578	\$115,039,099	
Cash and other current assets.....	3,184,700	3,240,215	
Unadjusted debits.....	233,131	368,377	
Corporate deficit.....	1,692,889	1,365,076	
Total.....	\$120,780,299	\$120,012,767	
LIABILITIES			
Capital:			
Preferred stock.....	\$ 13,651,900	\$ 13,651,900	
Common stock.....	22,739,650	22,739,560	
Capital stock surplus.....	9,805,995	9,805,996	
	\$ 46,197,546	\$ 46,197,546	
Funded debt.....	62,034,500	61,348,500	
Current liabilities.....	9,775,447	10,293,529	
Unadjusted credits.....	2,572,806	2,173,192	
	\$120,780,209	\$120,012,767	

Trustees: William G. Beale and Samuel Insull.

Officers: Edward A. Brion, comptroller; William V. Griffin, secretary.

Executive Committee: Samuel Insull, chairman; William A. Fox, John H. Gulick.

CHICAGO RAILWAYS CO.

THE Chicago Railways Co., was incorporated in Illinois in 1903, acquiring at a foreclosure sale, under a modified plan of reorganization, the property of the old Chicago Union Traction Co. and its operating lines, including North and West Chicago Street Railroads. The system serves the main business section, as well as the entire north and west sides, of Chicago, with a total of 586 miles of track.

Franchises—Expire February 1, 1927, the city reserving right to purchase the property on six months' notice at a valuation of \$30,779,875 (recognized by ordinance Feb. 1, 1907), plus the cost of rehabilitation and extensions, including 10 per cent allowance for construction profit and 5 per cent for brokerage on bonds. Company is limited to 5 per cent interest return on agreed valuation (\$92,128,636 as of January 31, 1921), all net profits above this to be divided on basis of 55 per cent to city and 45 per cent to company, but a deficit in any year to be made good in subsequent years. Before computing net profits, 6 per cent of gross receipts must be set aside for maintenance and repairs and 8 per cent for renewals and depreciation. Company agrees on demand of city to furnish \$3,000,000 to construct downtown subway, to be built and owned by city, any such contribution (including 5 per cent for brokerage on bonds) to be added to value of properties. The present rate of fare is seven cents, with three tickets for 20 cents, effective June, 1922. The city may commute its share of profits in reducing fare.

The mileage of the Company at the close of 1921 (measured as single track) was 585.83 miles as compared with 583.66 at the close of the previous year. The larger part of this increased mileage is due to construction of additional track facilities to handle traffic to and from the Municipal Pier.

Capital—The nominal capital stock of \$100,000, divided into four series, is held under a trust agreement dated August 1, 1907, by H. B. Riley, Wm. C. Niblack, Abel Davis, F. G. Gardiner and H. J. Tansley. In February, 1914, unified operation of all surface lines became effective under the Chicago Surface Lines. The capital stock issue is the basis for 265,100 participation certificates, divided into four series. Series 1, 2 and 3 are entitled, in order of priority, to cumulative dividends of \$8 for each part per annum, and in distribution of capital, to \$100 per part; series 4 is entitled to any remaining profits or capital distributed.

Dividends—Series 1: None since August 1, 1917; \$8 per share each year, August 1, 1916 and 1917; 1915: September 1, \$4 per share; June 5, \$4; 1914: August 1, \$8; February 10, \$4; 1913: August, \$4; July, \$6; May, \$6; February, \$6; 1912: October, \$6; 1909: \$6; 1908: \$4. Series 2: None since February 1, 1917; February 1, 1917, \$2; June, 1915, \$2; initial payment, February 10, 1914, \$2 per share. No payments made to date on series 3 and 4.

Funded Debt—\$59,926,000 first mortgage 5's, dated 1907, due February 1, 1927, interest February and August 1, callable at par and interest; \$17,403,800 consolidated mortgage 5s, series A, dated 1907, due February 1, 1927, interest April and October 1; \$17,164,475 consolidated mortgage 5 per cent Series B, interest June and December 1; \$12,336,220 consolidated mortgage 5 per cent series C, dated 1907, due February 1, 1927, interest February and August 1; \$4,073,000 purchase money mortgage 4s and 5s, dated 1910, due February 1, 1927, interest 4 per cent to January 1, 1916, and 5 per cent thereafter, callable at par and interest, lien on property of Consolidated Traction Co. (within city) acquired, and on Chicago Railways Co. subject to first and consolidated mortgages; \$2,500,000 adjustment income mortgage 4s, dated 1910, due February 1, 1927; with interest payable only if earned and is not cumulative. There is also \$1,980 in underlying securities.

The income and expense statement for the years ended January 31, with comparisons, follows:

EARNINGS

	1922	1921	1920
*Residue receipts	\$8,296,549	\$7,216,195	\$6,425,654

Deduct—Joint expenses and interest on capital investment of Chicago Rys. Co.	4,905,862	4,665,492	4,597,910
Net earnings	3,390,687	2,550,703	1,827,744
City's proportion, 55%	1,864,878	1,402,886	1,005,259
Chicago Ry. Co.'s proportion, 45%	1,525,809	1,147,817	822,485
Interest on capital investment	4,615,862	4,580,658	4,541,539
Interest on bank balances	117,024	72,115	46,980
Interest on treasury securities	78,427	73,538	72,099
Total income	6,337,124	5,874,127	5,483,104
Deduct—Interest on:			
First mortgage bonds	2,784,700	2,784,699	2,784,700
Consol. mortgage bonds	1,737,036	1,753,911	.....
Purchase-money bonds	203,650	203,650	.....
Sinking fund reserve accrued	250,000	250,000	.....
Federal income tax on interest coupons	42,000	42,000	.....
Corporate expenses and adjustments	131,100	142,761	.....
Total deductions	5,271,719	5,410,539	5,300,643
Net income	1,065,405	463,587	182,461
Surplus account:			
Previous surplus	508,175	44,588	37,126
Net income for year	1,065,405	463,587	182,461
Total	1,573,580	508,175	219,587
Deduct—Int. on adj. income bonds	100,000	.....	.....
Profits and loss surplus	1,473,580	508,175	219,587

*Particulars as to this item are given in earnings statement of Chicago Surface Lines.

BALANCE SHEET

ASSETS		
Years ended January 31	1922	1921
Road, equipment and franchises	\$ 99,997,561	\$100,017,591
Treasury securities	2,990,049	2,999,049
Collateral bonds—First mortgage 5 per cent bonds	2,812,000	2,812,000
Securities held by trustee	1,980	1,980
Sinking fund—Consolidated mortgage bonds—Series "C"	12,503	392
Cash	10,200,324	9,444,305
Accounts receivable	111,731	4,372
Income from treasury securities accrued	24,420	22,471
Total assets	\$116,159,568	\$115,802,160
LIABILITIES		
Capital Stock	\$ 100,000	\$ 100,000
Funded debt (all bonds due Feb. 1, 1927)	101,081,591	101,418,591
Current liabilities	3,833,403	3,877,843
Interest, taxes and sinking fund accrued	2,186,529	2,253,883
Reserves	7,484,466	7,144,167
Surplus	1,473,580	508,175
Total liabilities	\$116,159,569	\$115,802,160

Directors: Leonard A. Busby, Chairman; E. R. Bliss, Chauncey B. Borland, John A. Chapman, Williston Fish, Wallace Heckman, Herman H. Hettler, John M. Roach, John E. Wilkie.

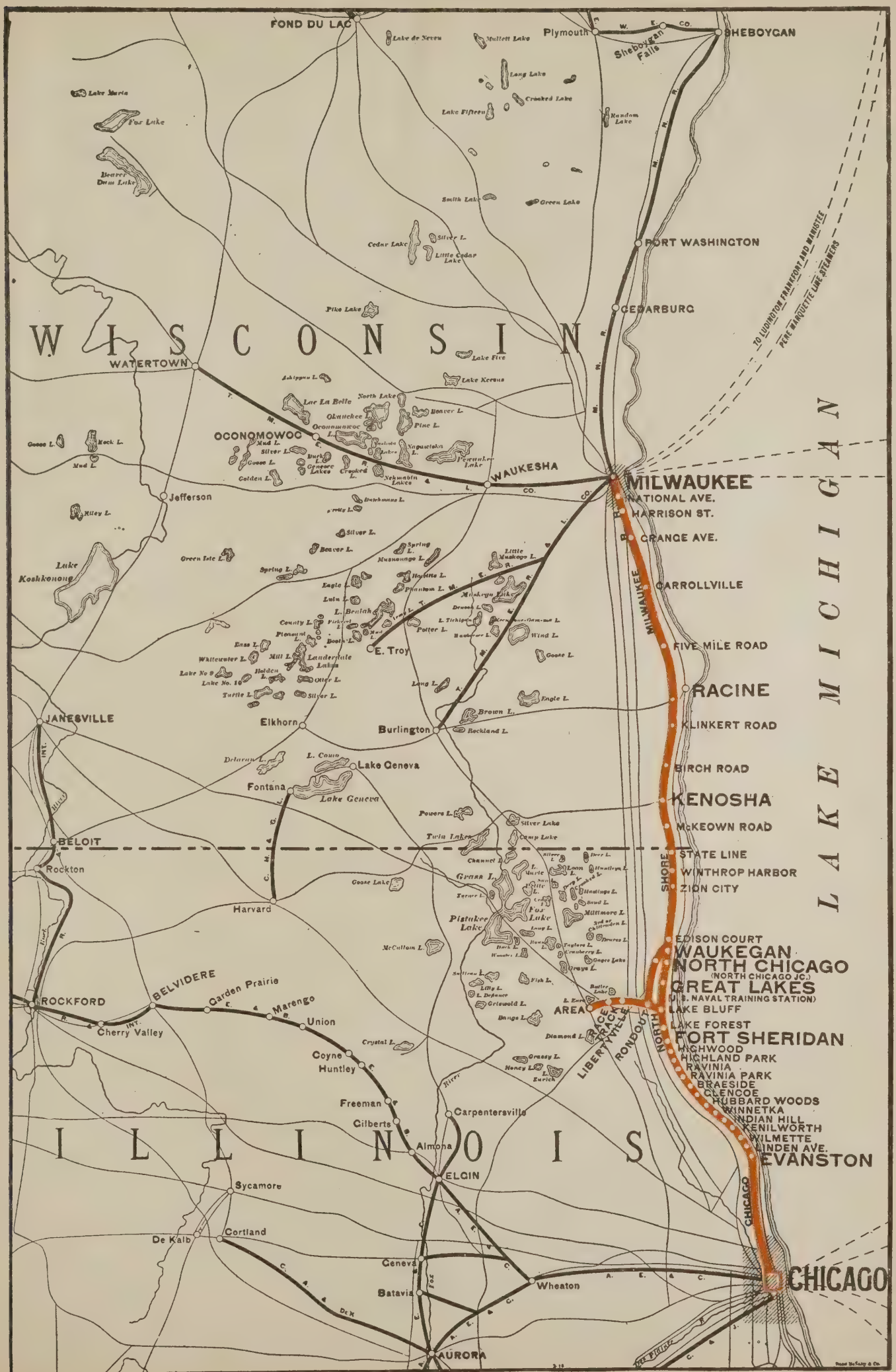
Officers: President, L. A. Busby; Vice-President, H. John M. Roach, John E. Wilkie; General Counsel, W. W. Gurley; Treasurer, Markham B. Orde; Secretary, Frank L. Hupp.

CHICAGO SURFACE LINES

THE Chicago Surface Lines is the official organization directing unified operation of all surface street railway lines in Chicago. It was organized February 1, 1914, and is composed of the Chicago Railways Company, operating on the north and west sides; the Chicago City Railway Company, Calumet and South Chicago Railway Company and Southern Street Railway Company, operating the south and southwest sides. The Southern Street Railway and the Calumet & South Chicago Railway Company which have been operated by the Chicago City Railway Company, are considered in the division of residue receipts by the Chicago Surface Lines as part of the Chicago Railway Company system.

Since the Chicago Surface Lines is an operating organization it has no capital stock or bonded debt. Franchises extend to 1927, but the city may purchase before this date. Each company is allowed 5 per cent return on the valuation of its property, plus the cost of rehabilitation and extensions, 10 per cent for construction profit and 5 per cent for brokerage on the sale of its bonds. The aggregate of valuation, construction profit and brokerage represents the purchase price to the city. The interest return to each company is deducted from its share of residue receipts after all items of operating expense have been allowed. In arriving at the residue receipts, 60 per cent goes to the Chicago Railways Company and 40 per cent to the Chicago City Railway Company. After the interest is deducted, the remainder is divided, 55 per cent to the city and 45 per cent to the company.

Earnings, expenses and distribution of residue receipts for years ending January 31, 1922 and 1921, follow:



EARNINGS				
	1922	1921	1920	1919
Passenger Cars	\$59,706,413	\$54,726,740	\$43,417,639	\$34,186,578
Chartered Cars	12,121	11,591		
Newspaper Cars	16,161	15,745		
Freight Earnings	2,318	3,234		
Hospital Car Service	4,194	2,734		
Advertising	247,184	240,956	235,964	432,975
Rent of Buildings, etc. ...	106,479	93,641		
Rent of Equipment	13,542	13,932		
Sale of Power	92,370	98,104		
Interest on Deposits	137,938	112,529	99,921	88,962
Miscellaneous	5,011	8,176	209,914	1,582
Gross Earnings	\$60,343,733	\$55,327,384	\$43,963,438	\$34,710,097
EXPENSES				
Maintenance	\$ 7,709,688	\$ 7,212,800	\$ 5,348,006	\$ 6,587,074
Renewals	4,827,498	4,167,325	3,009,195	
Power Operation	3,128,792	3,105,975	2,990,478	2,841,212
Conducting Transportation	24,783,303	23,499,004	16,633,324	12,477,147
General Expenses, including Damages and Board of Supervising Engineers	3,873,869	3,585,288	3,199,009	3,826,504
Taxes	2,193,000	1,730,000		
Total Expenses	\$46,516,150	\$43,300,392	\$33,254,014	\$25,731,937
Residue Receipts	\$13,827,583	\$12,026,992	\$10,709,423	\$ 8,978,160
Divided:				
Chicago Railways Company	\$ 8,296,549	\$ 7,216,195	\$ 6,425,654	\$ 5,386,396
South Side Lines	5,531,033	4,810,796	4,283,769	3,591,264

Members of the Board of Operation are: Henry A. Blair, chairman; Wallace Heckman, F. H. Rawson and John M. Roach, representing the Chicago Rys. Co.; H. B. Riley, F. O. Wetmore and L. A. Busby, representing the Chicago City Ry. Co. and its allied corporations.

Operating staff: President, Henry A. Blair; Assistant to President, J. V. Sullivan; Secretary, F. L. Hupp; Treasurer, M. D. Orde; General Auditor, J. J. Duck.

Chicago and Interurban Traction Co.

Incorporated in Illinois 1912. Acquired property outside city of Chicago & Southern Traction Co., the Chicago City Ry. Co. taking over lines inside the city.

Capital—In 1918 the company filed a petition with the Illinois Public Utilities Commission for authority to purchase the depot property and other facilities of the Northern Kankakee Electric Light & Railway Co. Authorized, \$500,000 7 per cent cumulative preferred and \$1,000,000 common. Outstanding, \$1,000,000 common. None of the preferred stock has been issued.

	Year Ending—	
	Dec. 31, 1921	Dec. 31, 1920
Revenue from transportation	\$373,606.68	\$444,537.33
Other revenue	36,770.00	5,345.40
	\$410,376.68	\$449,882.73
Operating expenses	412,221.29	387,743.94
Net operating revenue	*\$ 1,844.61	\$ 62,138.75
Interest and taxes	114,618.16	99,840.37
Deficit	\$116,462.77	\$ 37,701.62

*Net operating loss.

CHICAGO, NORTH SHORE & MILWAUKEE RAILROAD

CHICAGO, North Shore & Milwaukee Railroad was incorporated in Illinois in June, 1916, and acquired all of the property and other assets owned by the Chicago & Milwaukee Electric Railroad of Illinois and Wisconsin, organized in 1898. It owns and operates an electric railroad connecting Evanston, Ill., and Milwaukee, Wis., with a branch line extending from Lake Bluff, Ill., to Area, Ill. The property includes 85 miles of road and 170 miles of single track. Franchise of the Milwaukee city line expires Dec. 31, 1934; franchises in other communities are partly perpetual.

The principal communities served are: Evanston, Glencoe, and Highland Park, Ill.; Kenosha, Wis.; Lake Forest, Ill.; Milwaukee, Wis.; North Chicago, Ill.; Racine, Wis.; Waukegan, Wilmette, Winnetka, and Zion City, Ill. The combined population of communities served, exclusive of Milwaukee, is estimated at 170,000. On August 6, 1919, trains of the Company began operating into Chicago to and around the loop.

Capital—Nominal capital of \$100,000, which is made the basis of 170,000 Participation Certificates of no specified par value. These Participating Certificates are divided: 50,000

shares designated as Illinois Participation Certificates, bearing interest at \$5 per share per annum, cumulative, if earned, after Jan. 1, 1918, the dividends on these certificates to have priority over other participation certificates; 58,000 shares designated as Wisconsin Participation Certificates, bearing interest at \$5 per annum, cumulative, if earned, after Jan. 1, 1918; and 62,000 shares designated as Common Participation Certificates. The stock is held by Geo. M. Reynolds, Samuel Insull and R. Floyd Clinch as voting trustees.

Exchange of Securities—Holders of bonds of the former Illinois corporation received ten Illinois Participation Certificates for each \$1,000 bond; holders of bonds against the Wisconsin division of predecessor company received five Wisconsin Participation Certificates, and, in addition thereto, five Common Participation Certificates, for each \$1,000 bond. The present company took over the property from the receivers on July 26, 1916.

Funded Debt—\$4,060,000 first mortgage 5's, dated July 1, 1916; due July 1, 1936. Callable at 105 and interest. Authorized, \$10,000,000. In addition to the \$4,060,000 bonds outstanding in the hands of the public, \$940,000 are deposited with the trustee to secure \$885,000 6 per cent notes, dated July 1, 1917. The remaining \$5,000,000 are issuable at par for 85 per cent of cash cost of betterments when net earnings are twice the annual interest on all first mortgage bonds outstanding and those proposed to be issued. A maintenance, replacement and depreciation fund, amounting for the first five years to 12 per cent of annual gross income, 14 per cent for the second five years, 16 per cent for the third five years and 18 per cent for the last five years that bonds are to run; this may be expended for maintenance, etc., or for retirement of first mortgage bonds. Secured by first lien on all property owned and by deposit of capital stock of the Chicago & Milwaukee Electric Ry. of Wisconsin, the Milwaukee terminal company; the property of the terminal company is free of liens and no mortgage may be placed thereon.

\$460,000 general mortgage 5's, due Aug. 1, 1936. Authorized, \$1,500,000.

\$93,500 Equipment Trust 6 per cent notes, dated Jan. 1, 1917, due serially \$8,500 each July and Jan. 1 from Jan. 1, 1919, to Jan. 1, 1927.

\$440,000 6 per cent Equipment Notes outstanding of an issue of \$550,000 notes authorized under a trust agreement, dated Aug. 1, 1919, and secured by equipment costing approximately \$800,000.

\$1,411,300 10-year 7 per cent Secured Sinking Fund Gold Notes, Series "A," dated June 1, 1920, due June 1, 1930. Authorized, \$1,500,000. Interest payable June 1 and Dec. 1; \$490,700 15-year 7 per cent secured sinking fund Gold Notes.

Following are comparative income accounts for the years ending Dec. 31:

	1921	1920	1919
Gross operating revenues	\$4,500,806	\$4,193,669	\$3,237,921
Less operating expenses	3,440,762	3,229,048	2,319,464
Net revenue, railway operation	\$1,060,044	\$ 964,621	\$ 918,457
Net auxiliary operating revenue	6,561		
Net revenue from operation	\$1,066,605	\$ 964,621	\$ 918,457
Less taxes	225,845	151,746	163,101
Operating income	\$ 840,760	\$ 812,875	\$ 755,356
Non-operating income	11,972	10,333	17,879
Gross income	\$ 852,737	\$ 823,208	\$ 773,235
Less fixed charges	463,013	390,196	341,396
Net income	\$ 389,720	\$ 433,011	\$ 431,839
Surplus, January 1	1,643,161	1,270,954	899,115
Surplus adjustment		*804	
Surplus before dividends	\$2,032,881	\$1,703,161	\$1,330,954
Dividends on capital stock	70,000	60,000	60,000
Surplus as per balance sheet	\$1,962,881	\$1,643,161	\$1,270,954

*Decrease.

The balance sheet for the year ending Dec. 31, 1921, compares as follows:

ASSETS		
	1921	1920
Cost of road equipment and property	\$16,543,400	\$15,951,717
Discount and expense in funded debt subject to amortization	396,062	334,292
Funds in hands of trustees	17,674	101,723
Cash and current assets	550,569	642,543
Prepaid discounts	53,202	15,891
Special advances	547,182	455,018
Unadjusted accounts	100,517	81,329
	\$18,208,608	\$17,582,513

LIABILITIES			
Capital Stock:			
Chicago, North Shore & Milwaukee.....	\$ 100,000	\$ 100,000	
Chicago & Milwaukee Electric.....	100,000	100,000	
	\$ 200,000	\$ 200,000	
Equity of participation shareholders in road and equipment	\$ 7,455,312	\$ 7,438,972	
Funded debt	6,955,500	6,856,000	
Current liabilities	887,887	1,001,427	
Accrued interest and taxes.....	365,600	236,103	
Reserves	381,427	206,849	
Balance surplus	1,962,882	1,643,161	
	\$18,208,608	\$17,582,513	

Following is the latest income statement for 12 months ended October 31, 1922, with comparison:

	Year Ended Oct. 31, 1922	Year Ended Oct. 31, 1921	Increase
Passenger Revenue	\$ 4,101,327	\$ 4,002,105	\$ 99,222
Merchandise Despatch and Freight Revenue	689,644	463,636	*226,008
Miscellaneous Revenue	51,487	27,846	23,641
	\$ 4,842,458	\$ 4,493,587	\$348,871
Operating Expenses	\$ 3,648,352	\$ 3,457,004	\$191,348
Net Operating Revenue.....	1,194,106	1,036,583	157,523
Net Auxiliary Oper.	13,452	3,314	10,138
Net Earnings	1,207,558	1,039,897	167,661
Taxes	243,521	183,341	60,180
Operating Income	964,037	856,556	107,481
Other Income	14,215	13,254	961
Gross Income	978,252	869,810	108,442
Deductions from Income.....	484,091	456,868	27,223
Net Income	494,161	412,952	81,219
Revenue Passengers	13,433,081	14,330,144	*897,053
Car Miles Operated	9,011,914	8,112,267	899,647
Tons Merchandise Hauled.....	218,294	154,718	63,576

*Indicates decrease.

Directors—Britton I. Budd, R. Floyd Clinch, H. S. Osler, Joseph E. Otis, E. A. Shedd, John R. Thompson, Samuel Insull.

Officers—Samuel Insull, Chairman, Board of Directors; Britton I. Budd, President; R. Floyd Clinch, Vice-President; C. E. Thompson, Assistant to the President; W. V. Griffin, Secretary and Treasurer; John W. Evers, Jr., Assistant Secretary; W. H. Holtz, Assistant Treasurer; T. B. MacRae, General Auditor; C. R. Mahan, Auditor; Ralph R. Bradley, General Counsel.

CENTRAL ILLINOIS PUBLIC SERVICE CO.

(Subsidiary of Middle West Utilities Co.)

THE Central Illinois Public Service Co., incorporated in Illinois in 1902, serves 188 communities in central and southern Illinois. Its properties include electric light, gas, water, ice, power and street and interurban companies. Communities operated in include Mattoon, Charleston, Paris, Taylorville, Pana, Jerseyville, Beardstown, Anna, Mounds, Harrisburg and Carbondale, Ill. The franchises are mostly for long terms, many of them running to 1962. The company is the largest subsidiary of the Middle West Utilities Co. The approximate population of the territory served is 400,000.

Capital Stock.—\$5,893,400 preferred and \$8,511,900 common. The total authorized stock is \$7,500,000, of 6 per cent cumulative preferred and \$10,000,000 of common. All of the common stock is owned or controlled by the Middle West Utilities Co.

Dividends.—Have been paid at the rate of 6 per cent per annum on the preferred stock since issued, payments being made January, April, July and October 15. On the common stock 1½ per cent was paid in 1918, and 1 per cent in 1917.

Funded Debt.—Its bonds and notes on December 31, 1921, totaled \$18,713,845.16. Of this amount \$13,488,000 was in first and refunding mortgage 5's due August 1, 1952, with interest payable February and August 1. Additional bonds may be issued in equal exchange for underlying bonds and 75 per cent of the cost of acquisitions and improvements. Unless net earnings are 1½ times the interest charges, including the interest on bonds proposed to be issued, no additional bonds can be issued. Beginning in 1919 an annual depreciation fund of 2 per cent of the bonds outstanding has been set aside.

In 1921 the company purchased the Farmers Bank Building and annex in Springfield. These buildings are of brick and concrete construction and are situated on the corner of Sixth and Adams streets. All of the departments constituting its general offices now occupy the company's new premises, known as "Public Service Building."

During 1921 37.91 additional miles of high tension transmission line was installed, making a total of 1,425.29 miles. Included in this construction is the 33,000 volt transmission line extending from Elkhville to Carbondale. This extension provides a second loop line in the company's high tension transmission system in southern Illinois.

The company has recently completed the installation of an additional 5,000 kilowatt frequency changer in its Halls substation which will bring the total capacity of this station to 8,000 kilowatts, and has added 10,000 kilowatts of generating capacity in its Harrisburg generating station.

During 1921 4,661 horsepower of additional power load and 3,320 kilowatts of lighting road was taken on. It now serves 50 coal mines, having a total connected load of 27,009 horsepower, and 12 drainage districts, having a total connected load of 2,720 horsepower.

The company also serves 3,106 electric heating and cooking customers having 14,140 kilowatts of connected load. The gross income from electric heating and cooking customers in the year 1921 amounted to \$133,251.

The company supplies, at wholesale, the electrical energy requirements of 17 other utility companies for the operation of their respective public utility properties. This steadily growing business greatly helps to obtain higher production efficiencies and brings about economies.

The kind of service rendered and the number of customers now so served is shown by the following table:

Electric	78,355
Gas	8,014
Water	7,037
Heat	512
Total	93,918

Following is the comparative income statement for years ended December 31:

CHICAGO NORTH SHORE AND MILWAUKEE RAILROAD

Bonds—Notes—Participation Shares

BOUGHT, SOLD AND QUOTED

EDWIN L. LOBDELL & COMPANY, Inc.

Established 1888

INVESTMENT SECURITIES

209 So. La Salle St., Chicago

	1921	1920	1919
Gross earnings	\$ 5,878,685	\$ 5,168,000	\$ 4,113,620
Operating expenses and taxes.....	4,286,170	3,842,637	2,991,265
	\$ 1,642,515	\$ 1,325,453	\$ 1,174,151
Miscellaneous income	15,470	17,019	.....
Net earnings	\$ 1,657,985	\$ 1,342,472	\$ 1,174,151
Less: Interest charges, etc.....	1,173,921	1,049,205	908,185
Net income for year.....	\$ 484,064	\$ 293,267	\$ 265,966
Surplus balance January 1.....	\$ 339,735	\$ 273,564	\$ 204,299
Adjustments	129,204	6,068	33,429
	\$ 468,939	\$ 279,632	\$ 237,728
Net income for year.....	484,064	293,267	265,965
	\$ 953,003	\$ 572,899	\$ 503,693
Less: Preferred dividends	268,265	233,164	230,130
Surplus December 31.....	\$ 694,738	\$ 339,735	\$ 273,563

The balance sheet on December 31, 1921, compared as follows:

ASSETS		1921	1920
Plant, real estate and franchises.....		\$32,573,293	\$29,947,397
Securities owned		7,164	4,243
Sinking funds		5,703	3,694
Inventories and current assets.....		1,716,277	1,763,675
Prepaid expenses, etc.		485,806	546,715
		\$34,788,243	\$32,265,729
LIABILITIES			
Capital stock:			
Preferred		\$ 4,483,600	\$ 4,062,900
Common		7,500,000	7,250,000
		\$11,983,600	\$11,312,900
Bonds		18,713,845	17,133,681
Due to Middle West Utilities Co.....		529,865	848,356
Current and accrued liabilities.....		2,831,563	2,594,842
Sundry reserves		34,632	36,215
Surplus		694,738	339,735
		\$34,788,243	\$32,265,729

Directors.—Samuel Insull, Chairman; Walter S. Brewster, J. Paul Clayton, John F. Gilchrist, George W. Hamilton, Martin J. Insull and Marshall E. Sampsell.

Officers.—President, Marshall E. Sampsell; Vice-Presidents, J. Paul Clayton, George W. Hamilton; Secretary, P. A. Erlach; Asst. Secretary, Leroy J. Clark; Treasurer, C. E. Cripe; Asst. Treasurer, Clarence L. Nash; Auditor, R. A. Crews.

CITIES SERVICE COMPANY

CITIES SERVICE COMPANY was incorporated in Delaware, 1910, as a holding company. It controls electric light and power, electric railway, natural and artificial gas, and during the past several years has acquired very valuable oil properties, which today yield a large proportion of all the high-grade refinable oil produced in the United States. The public utility properties serve over 350 communities, with an aggregate population of approximately 2,500,000 in 21 states and in the Province of Ontario. Cities Service Co. controls through stock ownership 27 companies engaged in producing, transporting, refining and marketing petroleum and petroleum products and 80 public service corporations operate in 21 states and Canada. Following are the subsidiaries of Cities Service Company:

Adrian (Mich.) Street Railway Co.
Alliance Gas & Power Co., The.
American Eagle Oil Co. (Okla.)
Arkansas Valley Gas Co., The.
Ashland Gas & Electric Light Co., The.
Athens Railway & Electric Co.
Atlas Chemical Co.
Bartlesville Gas & Electric Co.
Berea Pipe Line Co., The.
Bristol Gas & Electric Co.
Brush Electric Co.
Central Ohio Gas & Electric Co.—Buckeye State Gas & Fuel Co., The; Columbus Natural Gas Co., The; Coshocton Gas Co., The; Medina Gas & Fuel Co., The.
Cities Fuel & Power Co.—American Pipe Line Co.; Franklin County Pipe Line Co.; Frost Gas Co.; Brocton Gas & Fuel Co.; Republic Light Heat & Power Co.; Glenwood Natural Gas Co., Ltd.; Manufacturers Natural Gas Co., Ltd., The; Sentinel Oil & Gas Co., The.
Cities Service Oil Co. (Colo.).
Cities Service Oil Co. (Ohio).
Cities Service Oil Co. (Texas).
Cities Service Oil Co., Ltd. (Canada).
City Light & Traction Co.
City Light & Water Co.
Colombian Petroleum Co.—Compania Colombiana Del Petroleo.
Compania Emmex de Petroleo y Gas.
Compania de Gas y Combustible "Imperio."
Crew Levick Co.—Admiralen S. S. Co.; Crew Levick Co. (Del.); C. A. Stannard Co.; Warren Company.
Cumberland & Westernport Electric Railway Co.
Danbury & Bethel Gas & Electric Light Co., The.
Denver Gas & Electric Light Co., The.
Dominion Gas Company—Beaver Oil & Gas Co., Ltd.; Brantford Gas Co.; Dominion Natural Gas Co., Ltd.; Ingersoll Gas Light Co.; United Gas Co.'s, Ltd.; Woodstock Gas Light Co.

Durham Public Service Co.
Electric Bond Deposit Co.
Empire District Electric Co.—Carthage Gas Co.; Empire District Electric Co. of Oklahoma; Webb City and Cartersville Gas Co.
Empire Gas & Fuel Co., The (Colo.).
Empire Gas & Fuel Co. (Delaware)—Empire Gas & Fuel Co. (Maine); Fifty-Nine Osage Oil Co.; Indian Territory Illuminating Oil Co.; Osage Producers Gas Co.; Pawhuska Oil & Gas Co.; Westerly Oil Co.; Keesage Oil Co.; Marnet Mining Co.; Delmar Oil Co.; Wichita Natural Gas Co.; Sedgwick Oil Co.; Midland Oil Co.; Quapaw Gas Co.; The; Consumers Gas Co.; Steyner Oil Co., The; Wichita Pipe Line Co.; Wichita Natural Gas Co.; Winfield Natural Gas Co.; Empire Gas & Fuel Co. (Me.); Empire Gas & Pipe Line Co.; Empire Gasoline Co.; Empire Petroleum Co.; Empire Refining Co.; Empire Pipe Line Co.; Empire Refineries, Inc.; Producers Refining Co.; Standard Asphalt & Refining Co.; Standard Emarex Co.
Empire Gas & Fuel Co. (Inc.) (Ky.).
Empire Gas & Fuel Co., The (Ohio).
Empire Leasing & Drilling Co. (Kan. and Okla.).
Empire Oil & Gas Co., (Inc.).
Empire Oil Purchasing Co.
Empire Refining Co. (Ill.).
Empire Refining Co. (Me.).
Fremont Gas, Electric Light & Power Co.
Kansas Natural Gas Co.
Knoxville Gas Co.
Lebanon Gas & Fuel Co.
Lincoln Gas & Electric Light Co.—Havelock Electric Light Co.
Meridian Light & Railway Co.—Hattiesburg Traction Co.
Montgomery Light & Water Power Co.
Ohio Public Service Co.
Peoples Electric & Ice Co.
Power Transmission Co.
Pueblo Gas & Fuel Co.
Richland Company.
Richland Public Service Co.
St. Joseph Railway, Light, Heat & Power Co.
Salina Light, Power & Gas Co., The.
Southern Ontario Gas Co., Ltd.
Southwestern Oklahoma Gas & Fuel Co.
Spokane Gas & Fuel Co.
Summit County Power Co., The.
Texas Distributing Co.
Toledo Traction, Light & Power Co.—Toledo Beach Co.; Toledo Casino Co., The; Toledo, Ottawa Beach & Northern Railway Co., The; Toledo Edison Co.
United Water, Gas & Electric Co., The.
Washita Gas & Fuel Co.
Watauga Power Co.
Western Distributing Co., The.
Western Light & Power Co., The—Cheyenne Light, Fuel & Power Co.
Western Oklahoma Gas & Fuel Co., The.

GENERAL STATISTICS OF SUBSIDIARY COMPANIES

ELECTRIC PROPERTIES		1921	1920
Kilowatt-hours Sold		647,751,497	703,729,856
Kilowatts Installed Capacity		387,260	387,105
Kilowatts Connected Load		627,794	607,201
Number of Customers		231,114	213,210
Population Served		1,450,000	1,450,000
ELECTRIC RAILWAYS			
Passengers Carried		95,274,280	112,964,771
Miles of Track		308	306
Number of Cars Owned		725	743
Population Served		600,000	600,000
ARTIFICIAL GAS			
Sales in Cu. Ft.....		5,849,050,310	7,217,382,500
24 Hour Capacity in Cu. Ft.....		23,568,000	22,603,000
Number of Customers		112,426	113,332
Miles of Mains on 3-in. basis.....		1,794	1,776
Population Served		1,100,000	1,100,000
NATURAL GAS			
Gas Sold in Cu. Ft.....		36,133,082,000	39,841,693,000
Number of Gas Wells Owned.....		2,107	1,995
Miles of Gas Mains Owned.....		5,564	4,570
Population Served		1,000,000	1,000,000
Casinghead Gasoline Produced (Gal.)....		4,252,986	1,000,000
OIL AND REFINERIES			
Barrels of Oil Produced.....		11,565,993	14,898,228
Number of Oil Wells Owned.....		3,807	3,761
Daily Refining Capacity (Barrels of Crude Oil)		27,500	30,000
Oil Storage Capacity in Barrels.....		6,558,000	6,342,000
Number of Tank Cars Owned and Leased..		2,271	2,374
Number of Distributing Stations (Excluding Foreign Countries)		321	248

Capital.—(As of October 10, 1922) Preferred 6 per cent cum. (\$100); authorized, \$150,000,000; outstanding, \$78,798,796. Second Preferred, Series B, 6 per cent cum. \$10), authorized, \$40,000,000; outstanding, \$3,512,220. 2nd Preferred, Series BB, 6 per cent cum., authorized, \$60,000,000. None outstanding. Common (\$100), \$100,000,000; authorized, \$46,593,786 outstanding.

Dividends.—On the Preferred stock commenced with the date of organization, September 2, 1910, and were paid monthly at the rate of six per cent (6 per cent) per annum until August 1, 1914. Dividends at the same rate were resumed on January 1, 1916, and the accrued accumulated dividends amounting to 9 per cent were paid in convertible debentures, practically all of which have since been converted. Dividends at the rate of 6 per cent were paid to and including June 1, 1921; July 1, 1921, to Aug. 1, 1922 ½ per cent was paid in scrip. September 1, 1922, cash dividends of ½ per cent were resumed. On the preferred "B" ½ per cent January 1, 1920, to June 1, 1921, in cash; ½ per cent scrip July 1, 1921, to Sept. 1, 1922. October 1, 1922, same rate in cash resumed.

Cash dividends on Common stock began with the date



of organization, September 2, 1910, and were paid monthly up to August 1, 1914, at the following rates:

3 per cent, 1910; 3 per cent, 1911; 4 per cent, 1912; 5 per cent, 1913; 6 per cent, 1914; and were then suspended until January 1, 1916, at which time a distribution of 6 per cent of convertible debentures was made and on July 1, 1916, a further distribution of 3 per cent of convertible debentures. Since that time, to and including June 1, 1921, dividends were paid on the Common stock at the rate of six per cent per annum in cash, and since July 1, 1921, the same rate has been paid in scrip.

On September 1, 1916, a dividend of 2 per cent in Common stock was paid and on December 1 a dividend of 4 per cent on Common stock was paid. During 1917, the company declared a dividend of 6 per cent payable in Common stock; in 1918, 9 per cent in Common stock, and in 1919, 12 per cent in Common stock. It is the intention of the Board of Directors to increase the Common stock dividend at the rate of 3 per cent per annum, so long as the earnings of the company justify this policy. The company paid dividends of 1¼ per cent in Common stock monthly from February 1, 1920, to June 1, 1921, and since July 1, 1921, same rate has been paid in scrip.

The dividends on both Preferred and Common stocks are payable on the first day of each month to stockholders of record on the 15th day of the preceding month.

On the Bankers' Shares the initial dividend of 39.6c was paid April 1, 1919. Total for 1919 was \$4.113; for 1920, \$5.9652; for 1921, \$3.20375; since Jan. 1, 1922, 17½c has been paid monthly.

Bankers' Shares.—There have been deposited under an agreement dated March 1, 1919, between Henry L. Doherty & Company and Bankers Trust Company, as Depositary, 30,000 shares of the Common Capital Stock of Cities Service Company, of the par value of \$100 each. The agreement provides, among other things, for the issue of non-voting certificates, in registered form, to represent what is termed in the agreement "Cities Service Company Bankers' Shares," against the Common Stock so deposited, each such Bankers' Share representing one-tenth interest in a share of Cities Service Company Common Stock of the par value of \$100. There have been issued, under this agreement, Certificates representing 300,000 Bankers' Shares against the 30,000 shares of Cities Service Company Common Stock so deposited. The agreement provides that Cities Service Company or Henry L. Doherty & Company shall have the exclusive right to deposit additional shares of Common Stock from time to time, against which additional Bankers' Shares may be issued in the same ratio. Subject to the provisions of the agreement, holders of Bankers' Shares have the right to surrender their Bankers' Shares at any time when the transfer books are not closed, and receive for each ten Bankers' Shares so surrendered one share of Cities Service Company Common Stock of the par value of \$100. The agreement further provides for the sale of all stock dividends received on the deposited Cities Service Company Common Stock and the disbursement of the net proceeds from such sale, together with the cash dividends received on the deposited stock, in the form of a disbursement to the holders of the outstanding Bankers' Shares. The holders of Bankers' Shares may, however, order their pro rata share of said stock dividends withheld from sale and delivered to Henry L. Doherty & Company for the account of such holders. Under the present dividend policy of Cities Service Company distributions to holders of Bankers' Shares are payable on the 1st of each month, to holders of record on the 15th day of the preceding month.

Funded Debt

\$28,635 Convertible 5 per cent, Series A, Debentures and Debenture Certificates; due Jan. 1, 1966. Auth., \$5,000,000. Convertible at par into Pfd. with 25 per cent additional in Common stock. Additional amounts may be issued in series, all with the same maturity, and with convertible privileges as determined at time of issue.

\$5,986,950 (\$500,000 called Dec. 4, 1922) 7 per cent Convertible Debentures, Series B, dated Jan. 1, 1918; due Jan. 1, 1966. Int., Jan. and July 1. Callable at 102 and int.; if called

before, on or after Jan. 1, 1920, the holder has the right to convert after proper notice by public advertisement. Authorized, \$30,000,000. Each \$1,000 of these debentures are convertible on or after Jan. 1, 1920, into 8 shares of Cities Service Company Preferred stock and 2 shares of Cities Service Company Common stock, together with accumulated cash and stock divs. on 2 shares of Common stock from Jan. 1, 1918, to date of conversion.

\$16,914,180 Convertible 7 per cent, Series C Debentures, dated Jan. 1, 1919, due Jan. 1, 1966. Convertible at option of holder on and after Jan. 1, 1921, into 9 shares of Cities Service Preferred stock and 1 share of Common stock with the accumulated cash and stock dividends on the latter stock from Jan. 1, 1919, to date of conversion. Int. Jan. 1 and July 1.

\$8,134,700 Conv. 7 per cent deb., Series D, due Jan. 1, 1966; dated Dec. 1, 1919. Int., June and Dec. 1. Auth., \$30,000,000. Redeemable at 102 and int. Convertible on and after Jan. 1, 1922, at rate of \$1,000 bonds for \$925 Preference B or Preference BB stock and \$75 Common stock, with accumulated cash and stock divs. on Common from Dec. 1, 1919.

\$118,037,399, Total Subsidiary bonds outstanding.

EARNINGS OF CITIES SERVICE CO.—Calendar Years:

	1921	1920	1919	1918
Total Gross Earnings.....	\$13,461,770	\$24,698,039	\$19,977,550	\$22,280,067
Expenses	517,054	700,472	703,835	521,485
Net Earnings	12,944,715	23,997,566	19,273,715	21,758,581
Interest	2,098,130	1,941,628	1,922,861	272,579
Net Applicable to Stock.....	10,846,585	22,055,938	17,350,854	21,486,002
Divs. on Pfd. Stock.....	4,856,631	4,685,474	4,215,264	4,034,274
Net Applicable to Common Stock and Reserves..	5,989,953	17,370,463	13,135,590	17,451,727
No. of times Pfd. Dividends were earned	2.23	4.71	4.12	5.32
Per Cent of Earnings on Average Amount of Common Stock Outstanding	13.04	43.09	39.09	61.67

Following is the latest statement of earnings of Cities Service for twelve months ended October 31, 1922.

	12 months ended Oct. 31, 1922	12 months ended Nov. 30, 1921	12 months ended Nov. 30, 1920
Gross Earnings	\$14,558,623	\$14,094,814	\$24,629,168
Expenses	435,402	546,239	701,457
Net Earnings	14,123,221	13,548,574	23,927,711
Interest on Deb.....	2,257,691	2,106,018	1,936,076
Net to Stock.....	11,865,731	11,442,556	21,991,634
Dividend Pfd.	4,913,716	4,847,804	4,657,260
Net to Common Stock and Reserve	6,952,014	6,594,751	17,334,374
Total Surplus and Reserves Oct. 31, 1922	46,739,386		

CONSOLIDATED BALANCE SHEET, CITIES SERVICE COMPANY AND SUBSIDIARIES, DECEMBER 31, 1921

Inter-Company Items Eliminated

ASSETS	
Capital Assets—	
Plant and Investment.....	\$342,899,354.93
Sinking Fund	3,704,772.50
Employees Subscriptions	1,033,844.26
Total Capital Assets.....	\$347,637,971.69
Current Assets—	
Cash	\$ 4,904,221.52
Securities Owned	560,300.92
Bills Receivable	1,405,674.41
Accounts Receivable	16,175,638.05
Oils in Stock.....	7,537,845.77
Materials and Supplies.....	11,854,437.74
Total Current Assets.....	42,438,113.41
Other Assets—	
Payments Made in Advance.....	\$ 4,307,141.41
Discounts on Bonds, Debentures, etc.....	6,892,332.47
Special Deposits	340,249.41
Total Other Assets.....	11,539,723.29
Total Assets	\$401,615,808.39

LIABILITIES

Capital Stocks Owned by Public—	
Cities Service Co. Preferred Stock ..	\$ 78,239,931.71
Cities Service Co. Pref'nce B Stock ..	3,446,970.00
Cities Service Co. Common Stock....	46,511,015.67
Subsidiary Stocks Owned by Public—	
Preferred Stocks	12,424,918.00
Common Stocks	5,060,884.67
Total Capital Stocks.....	\$145,683,220.05
Bonds and Funded Notes Owned by Public—	
Cities Service Co. Debentures—	
Series A (Due 1966).....	\$ 28,860.00
Series B (Due 1966).....	5,994,150.00
Series C (Due 1966).....	16,918,080.00
Series D (Due 1966).....	6,871,000.00
Subsidiary Bonds and Funded Notes ..	123,137,583.52
Subsidiary Securities in Sinking Fd. ..	2,959,267.48
Total Bonds and Funded Notes.....	155,908,941.00

Current Liabilities—		
Bills Payable	\$ 9,382,201.71	
Accounts Payable	5,459,499.50	
Taxes Accrued	1,410,772.71	
Interest Accrued	1,821,382.16	
Other Liabilities	458,491.07	
Total Current Liabilities		18,532,347.15
Other Liabilities—		
Preferred Cash Scrip.....	\$ 2,832,258.75	
Common Cash Scrip.....	1,622,297.65	
Stock Scrip	4,055,744.12	
Customers Deposits	1,374,080.74	
Total Other Liabilities.....		9,884,381.26
Depreciation and Other Reserves.....	\$ 24,593,908.18	
Surplus	47,013,010.75	
Total Surplus and Reserves.....		71,606,918.93
Total Liabilities		\$401,615,808.39

In his annual report for the year 1921 to the stockholders, President Henry L. Doherty among other things said:

The continued investments made during past years to keep pace with the growing public utility needs of the communities served are realizing their earning power at a time when it is most helpful in stabilizing the situation as a whole. Despite depressed business conditions during the year, preferred dividends were earned 2.23 times, and the balance accruing to the common stock was \$13.04 a share.

In June your Directors, in view of the general unsettled financial and economic conditions, decided to change the dividend policy of the Company from a cash to a scrip basis. The subsequent developments and the present improved position of your company have fully justified the action of your Board.

The combined statement of earnings of Cities Service Company and its subsidiaries shows that the net earnings from operations were approximately two-thirds of the amount in the previous year. The schedule of capitalization and interest bearing indebtedness shows that the earnings amounted to 7.6 per cent of this total, compared to 10.5 per cent average for the last six years. In other words the earnings compared to capitalization and indebtedness, were maintained at a rate equivalent to over two-thirds of the average for the last six years, thus strongly emphasizing the substantial character of the earning power of your properties.

Much attention was given during the year to the problem of placing the subsidiaries in a position to obtain capital requirements for their continuous development through their own credit, without depending so largely upon Cities Service Company as has been necessary in the past. The maturing obligations of The Toledo Company were refinanced with this in mind, and the Toledo Edison Company now has established markets for its securities which will readily provide funds for its growth. Similarly, a new company, The Ohio Public Service Company, was formed and acquired the properties formerly operated by The Trumbull Public Service Company (Warren, O.), The Massillon (O.) Electric & Gas Company, The Lorain County Electric Company and The Utilities Construction Company (Elyria and Lorain, O.), The Alliance (O.) Gas & Power Company, The Richland Public Service Company (Mansfield, O.) and The Ashland (O.) Gas & Electric Light Company. In addition to providing for certain maturing obligations, the company has established a dependable market for its bonds to finance the major amount of the cost of its future extensions and developments. Further plans are under consideration for strengthening the independent financial resources of other important subsidiaries.

Audits and appraisals have been made by independent certified public accountants and engineers covering what we regard as approximately three-fourths of your Company's property. These appraisals indicate to us that the total reproduction value of all the property is in excess of \$500,000,000 as compared with the plant and investment account of \$342,899,354.93, as shown by the consolidated balance sheet in this report. Consistent with the policy of your Company appreciation in values has not been included in the investment account.

The unparalleled industrial activity of 1919 and 1920 found central electrical stations everywhere loaded beyond their safe carrying capacity, with still further demands for

power which had to be refused. The depression of 1921, which reduced production in many lines of industry to 20 or 30 per cent of capacity, had no such marked effect on the electrical industry. While the loads on central stations in some of the industrial centers showed some falling off during the early part of 1921, by the end of the year most plants were well loaded and plans were made to provide additional facilities to take care of the increasing requirements.

During the year the installation of a 12,500 k. w. turbine, together with boilers, stokers, ash handling equipment and a modern water purification plant, was completed at Warren, Ohio. The capacity of this plant has grown from 3,250 k. w. in 1912 to 48,250 k. w. in 1921.

The second unit of the Acme plant proved very beneficial during the year and resulted in greatly improved efficiency for the entire Toledo system. Additional substation facilities were also provided at Toledo in order to better handle the rapidly increasing load. Work also progressed on the construction of the high tension belt line which, when completed, will improve the facilities for serving the manufacturing section of Toledo. Better station economy at Mansfield was made possible by the installation of the new 10,000 k. w. turbine. The installation of the 5,000 k. w. turbine and boilers at Massillon, Ohio, was also completed. With the installation of the 10,000 k. w. turbine and boilers at St. Joseph, Mo., this plant has emerged from its service difficulties and is showing improved efficiency.

The formation of The Ohio Public Service Company to group the systems at Elyria, Lorain, Warren, Massillon, Alliance, Mansfield and Ashland, will ultimately make possible the generation of electricity at the most economical points on the system by the utilization of the most efficient plants within the group. Plans are now under way for the construction of the section of the 132,000 volt transmission line between Warren, Alliance and Massillon.

Early in the year The Community Traction Company took over the railway property of The Toledo Railways and Light Company. The latter company's name was changed to The Toledo Edison Company and the physical property of The Acme Power Company was acquired.

Natural Gas

The most noteworthy event in this division was the taking over of the operation of the Kansas Natural Gas system which added over 1,190 miles of gas mains and 62 communities served either directly or indirectly.

Progress was made in securing rate adjustments for the various natural gas properties, notably in Ohio, Canada, and New York. In the Kansas-Oklahoma fields rate adjustments are in progress looking towards the complete adoption of the principles of the three-part rate. Further experience with the rate, which was inaugurated and developed by your organization, convinces us that this is the only equitable and feasible means of rendering adequate service and of securing a fair return.

New and important sources of gas supply within reach of your companies were opened during the year, including the fields near Ripley, Paine County, Oklahoma; Quay, Pawnee County, Oklahoma; Colony, Anderson County, Kansas, and Howard, Elk County, Kansas, in the Mid-Continent division. In the Canadian division a new pool was developed in Seneca and Oneida townships, Haldimand County, Ontario, and an extension was made to the Ripley pool in the Ohio division.

Petroleum Production

The year 1921 was marked by wide fluctuations in the price of crude oil, ranging from \$3.50 per barrel at the beginning of the year for Mid-Continent crude, to \$1.00 per barrel on June 15th. The price reacted from the low point to \$2.00 per barrel before the close of the year where it remains at the writing of this report. At the inception of the reduced prices your company adopted a program of curtailment in all drilling expenditures, not only with a view of cash conservation but more especially to follow out a definite policy that it was more desirable to hold the oil in reserve underground, than to bring it to the surface where storage

facilities would have to be provided. Such drilling as was done, therefore, was largely to protect acreage where offsetting was necessary. Compared with 313 wells completed the previous year your companies this year completed only 60 new wells in the Mid-Continent field in Texas, Oklahoma and Kansas, the majority being in the various productive pools of Oklahoma. These wells materially added to the value of the leases held, and extended the total producing acreage of the Company.

The production of oil for the year, in consequence of the curtailed drilling program, was not so large as the preceding year but its volume, in comparison with the development work done, indicates the settled character of our producing wells.

During the early part of the year the acquisition of new leaseholds was curtailed on the assumption that the receding prices for the product would be followed by a reduction in the cost of desirable oil lands. In the latter part of the year a number of attractive holdings were acquired at favorable prices to keep pace with developments in new territories.

As pointed out heretofore, the production of your companies is not confined to one or two fields but includes nine fields in Kansas, eight in Oklahoma and three in Texas. In addition large areas of partially developed acreage throughout the Mid-Continent section are held by your companies, insuring reserves of oil sufficient to maintain production for many years. A resumption of active development work in these territories would readily increase present production.

Continued improvement in standards of practice in the operations of the producing fields has resulted in further economies in the cost of operation.

The total petroleum production of the United States (which represents 62 per cent of the world's production) for the year aggregated 469,639,000 barrels, while the total consumption and exports were 516,728,000 barrels, as compared with 546,373,000 barrels for 1920. These figures show conclusively the wonderful stability of oil business and the fact that a return to normal industrial conditions is certain to produce demands for petroleum products in excess of present known supplies. This country consumed and exported 47,089,000 barrels more oil than it produced in a year of acutely subnormal business conditions. Had it not been for the abnormally large Mexican importations domestic stocks would have been depleted instead of increased. We are of the opinion that the world faces a shortage of oil during the next few years that will inevitably cause higher price levels to be established than have heretofore prevailed. An industrial revival, and economic adjustments sufficient to have caused an increase of 16 per cent in consumption in 1921, would have absorbed the entire excess of production and imports over consumption and exports.

Refining and Marketing

Continuing our plan of developing the marketing branch of the business to cover wider and more diversified fields, and working to the end of eventually marketing petroleum products under the name "Cities Service Oils," new markets were entered during the year. The fields selected are advantageously located with respect to our refining plants. A company was formed in Texas and tankage erected at Galveston to bring in Mexican oil from affiliated companies, as well as to reach the markets in that section. This company is being enlarged to take in additional stations for all sorts of petroleum products in the state of Texas. A similar company was formed in Colorado to market gasoline, kerosene and lubricating oils. Early in the year The Lubric Oil Company, of Cleveland, was acquired. Under the name of Cities Service Oil Company of Ohio this company has established a substantial business in the cities of Cleveland, Elyria, Lorain, Sandusky and Detroit. Toward the end of the year negotiations, which have since been closed, were begun for extensive marketing facilities in the States of Iowa, Minnesota, South Dakota, and Nebraska. The Crew Levick Company was particularly successful in its motor oil campaign and much progress was made in all other marketing subsidiaries.

Our business of dealing as brokers in refined petroleum

products through various subsidiaries is proving very satisfactory and is being enlarged. Since the end of the year the Company has entered into a working arrangement with the Carson Petroleum Company which gives it first call on the valuable export facilities of that corporation at New Orleans.

Further progress was made during the year by the installation of improved equipment in both our eastern and western refineries. Continued experimental work on cracking of oils, resulting in the development of units which were put on a commercial basis near the close of the year, will add immediately to the efficiency and earnings of the Okmulgee plant and make possible expansion and progress for the other refining plants.

Entering the year 1922 your company is, on the whole, in a much stronger position because of enlarged markets and better manufacturing conditions, than in 1921.

Officers.—Pres., Henry L. Doherty; Vice-Pres., Sir Edward Mackay Edgar, Bart., Frank W. Frueauff, Thomas I. Carter, Ernest H. Johnston; Sec., Paul R. Jones; Treas., Louis F. Musil; Ass't Sec's, G. G. Brownell, E. E. McWhiney, G. C. Blankner, T. W. Bonnett (London), Charles B. Wedum; Ass't Treas., James J. Burke, D. W. Harris, G. G. Brownell, T. A. Wallace, D. B. Carson; Gen. Counsel, Frueauff, Robinson & Sloan.

Directors.—George A. Archer, Thomas St. John Bashford, Milan R. Bump, Thomas I. Carter, Henry L. Doherty, Sir Edward Mackay Edgar, Bart., Warren W. Foster, Benjamin N. Freeman, Charles A. Frueauff, Frank W. Frueauff, Ernest H. Johnston, Paul R. Jones, Louis F. Musil, Watson B. Robinson, Edward W. Rollins, Holton H. Scott, Leslie M. Shaw, Herbert R. Straight, Franklin S. Terry, Burton G. Tremaine, George Williams.

General Offices, 60 Wall Street, New York.

COLUMBIA GAS & ELECTRIC COMPANY

THE Columbia Gas & Electric Company which, with its subsidiaries, supplies with gas and electricity the city of Cincinnati and the surrounding sections in Ohio and Kentucky and many communities in West Virginia, has shown a remarkable growth during the past few years. From a small beginning in 1906, when it was incorporated under the laws of West Virginia, it has grown to the point where it controls, through its subsidiaries and lease, approximately 10 per cent of the natural gas acreage of the country, or, in all, 1,100,000 acres of gas and oil rights with a combined initial capacity of 925,000,000 cubic feet. Its main gas producing subsidiary is the United Fuel Gas Company, controlling interest in which was acquired in 1915. This company operates about 730 gas wells. Most of the oil properties of the system are operated through the subsidiary Virginian Gasoline & Oil Company, incorporated in 1922.

The Columbia Gas & Electric Company owns all the outstanding capital stock of the Union Gas & Electric Company, which, through lease of all properties of the Cincinnati Gas & Electric Company, does all the gas and electric business in Cincinnati and the neighboring communities in Hamilton County, Ohio. The Columbia leases from the Cincinnati, Newport & Covington Light & Traction Company all the stocks of the latter's subsidiaries, namely, the Union Light, Heat & Power Company, which supplies gas, electricity, and water to Covington and Newport and other Kentucky communities near Cincinnati, and the Cincinnati, Newport & Covington Railway, which operates the street railways in these communities and entering Cincinnati.

In 1908 the Cincinnati Gas & Transportation Company was formed for the purpose of building and operating pipe lines connecting the natural gas fields in West Virginia and Kentucky, owned by the Columbia, with Cincinnati and northern Kentucky cities. The properties, including 183 miles of pipe lines are held through lease by the Columbia.

The company and its subsidiaries now supply gas, electricity or water to over 295,000 retail customers, and also sell large quantities of gas at wholesale to other distributing

companies. During the first ten months of the current year, retail customers in the Cincinnati district have increased more than 16,000 over the number supplied in 1921. From 30,000 K.W. in 1915, the peak load has increased steadily to 100,000 K.W. on December 13th of this year, and it is expected within the next year to reach 120,000, the capacity of the main power plant at Cincinnati.

The phenomenal growth of the company is best shown by comparison of the earnings for the past several years. In 1917 the gross earnings totaled a little over \$10,860,000 while the net income, after fixed charges, amounted to about \$2,150,000. In practically every year since then these figures have shown a continuous increase. In 1919, the gross earnings were not quite \$12,000,000 and the net income slightly under \$2,450,000. These figures had advances, in 1920, to \$14,616,743 and \$3,991,357, respectively. In 1921 gross earnings were approximately \$15,150,000 and net income was a little in excess of \$3,450,000. For the ten months ended October 31st, gross earnings were about \$14,900,000, and by the end of the year are expected to reach the \$18,000,000 mark. In 1921 the company earned \$6.91 per share on its capital stock, whose par value is \$100.

The balance sheet shows a conservative advance in the property account from year to year, in 1917 amounting to some \$64,000,000, and in 1921 a little over \$65,700,000. During this time, the capital stock has remained at \$50,000,000. The funded debt, in the hands of the public, which, in 1916 was about \$16,338,000 has been reduced and at the present time consists of only \$11,293,000 first mortgage bonds and \$2,616,869 5 per cent debentures. The surplus of the company increased from a little under \$3,000,000, in 1917, to \$4,303,535, in 1921.

COMMONWEALTH EDISON COMPANY

THE Commonwealth Edison Company was incorporated in Illinois in 1907 as a consolidation of the Chicago Edison and Commonwealth Electric Companies. In October, 1913, it took over by consolidation the Cosmopolitan Electric Company.

Capital.—Its Authorized capital stock is \$60,000,000 of which \$55,465,000 has been issued. The stock is exempt from personal property taxes when held by residents of Illinois. Capital stock was increased \$4,583,890 in 1917 and stockholders of record Feb. 1, 1917, were allowed to subscribe at par pro rata to their holdings.

Dividends.—Have been paid at the rate of 8 per cent per annum on February, May, August and November 1 from November 1, 1913, to date. A stock dividend of 10 per cent, totaling \$3,695,000 was also distributed November 1, 1913. From November 1, 1907, to August 1, 1908, 5 per cent per annum was paid; November 1, 1908, to February 1, 1911, 6 per cent per annum; May 1, 1911, to August 1, 1913, 7 per cent per annum.

Funded Debt.—Consists of \$8,000,000 Commonwealth Electric Company first mortgage 5's, dated 908; due June 1, 1943, interest payable March and September 1; \$38,631,000 Commonwealth Edison Company first mortgage 5's, dated September 1, 1908; due June 1, 1943, with interest payable March and September 1, \$7,143,000 additional of the latter bonds were issued in November 1922 to retire \$5,000,000 five year 7 per cent collateral gold notes due June 1, 1925; \$6,000,000 first mortgage 6's.

The same mortgage is security for all bond issues and includes all property acquired. There is no limit to the amount of the mortgage and additional bonds are issuable for 75 per cent of the cost of extensions, etc. A sinking fund of \$17,000, annually, has been set aside as depreciation reserve, beginning in 1914 for each \$1,000,000 of bonds outstanding.

Franchises.—The company has virtually a monopoly of the electric lighting and power business in Chicago. Its franchise extend to 1947 and at the beginning of 1922 the total number of customers served was 536,982. It furnishes all the power required by the elevated and surface railways. The company pays the city 3 per cent of its gross receipts

as taxes on earnings and a normal federal income tax of 2 per cent.

Growth and Extensions.—During the year 62,200 new customers were added to the Company's lines, bringing the total number of customers being served at the end of 1921 up to 536,982. In spite of the unsatisfactory conditions that prevailed throughout the year in many lines of business, the increase was greater than in any other year of the Company's existence.

The electrical output of the Company also showed a substantial increase, the maximum load carried at any one time during the year being 525,640 kilowatts, as against 478,820 kilowatts for the preceding year.

There was a material increase in the consumption of electricity for use in the manufacture of ice, and it is interesting to know that during the year seventy per cent of all the ice used in the City of Chicago was made by means of electric power. During the months of June, July, August and September, the kilowatt-hour output of electricity used for this purpose was greater than the kilowatt-hour output used for residential purposes. It is very satisfactory from the Company's viewpoint that this heavy demand of the ice manufacturers comes during the months of the year when the demand for residential purposes is lightest; thus serving to equalize the Company's output.

Additional Stock Issued.—Near the end of 1921, the Board of Directors, with the approval of the Illinois Commerce Commission, authorized the issuance of additional stock to the amount of eight per cent of the existing stock. This new stock was offered at par to stockholders of record on December 17, 1921, in proportion to their recorded holdings on that date. Stock subscribed for as a result of the offer was payable in four equal installments.

After the issuance of the stock subscribed for as a result of the offer referred to in the preceding paragraph, practically all the present authorized capital stock of the Company is outstanding. Therefore, the Board has recommended that the authorized capital stock of the Company be increased from sixty million dollars to eighty million dollars, and the question of so increasing the authorized capital stock of the Company will be submitted to the stockholders at the annual meeting to be held on February 27, 1922. If the authorized capital stock is increased by the stockholders the stock representing the increase may be issued from time to time in the future as and when the Board may decide that new capital is necessary for the Company's purposes.

Reserves.—For several years the Company has carried in its balance sheet under the title "Other Reserves" various accounts amounting to \$321,267.31. These reserves were set aside in anticipation of possible losses on materials carried in storerooms and on uncollectible accounts, and also to provide for interest upon customers' deposits. As it has been found unnecessary to carry these reserves for the purposes of covering losses on materials and uncollectible accounts, the amounts in the reserves intended to provide for these purposes have been credited to surplus, and on account of this addition to surplus a like amount has been appropriated out of surplus to write down some of the Company's assets. The portion of these reserves intended to provide for interest upon customers' deposits has been somewhat increased and transferred to "Interest Accrued."

It has been the policy of the Company for many years to set aside out of its earnings annually an amount thought adequate to provide a reserve for the keeping up of its property in accordance with the most modern standards of efficiency and economical operation. When any part of the Company's property is abandoned on account of wear, obsolescence, inadequacy or other causes, the Company's plant and equipment account and also its depreciation reserve are reduced by the amount of the original cost of such abandoned property. During the past year the Company abandoned more of its property than usual. The amount added to depreciation reserve was \$2,753,483, and the amount charged against this reserve was \$2,061,623.05, making the net in-

crease in the depreciation reserve as of December 31, 1921, \$691,859.95.

Employees' Insurance.—For many years it has been the custom of the Company at Christmas time to give a turkey to each of its employees who has been in the service of the Company for a year or more. This custom was not entirely discontinued last Christmas, but a majority of the employees elected to take as Christmas presents certificates of insurance issued under a "group" insurance policy, paid for by the Company. The group policy covers 2,663 employees, for a period of one year from December 24, 1921. The individual certificates issued under the policy and delivered to the employees carry insurance ranging from \$500 to \$1,500, depending upon the length of service of the employee. The suggestion that the group insurance policy be taken out originated with the General Joint Council under the Employees' Representation Plan.

Following is the comparative income account for the last three years ending December 31:

	1921	1920	1919
Electrical operating revenues....	\$ 37,139,830	\$ 35,317,134	\$ 30,366,426
Less: Electric operating expenses	24,396,155	24,698,185	19,519,507
Net electric operating revenues	\$ 12,743,675	\$ 10,618,949	\$ 10,846,919
Less: Other charges	3,955,931	3,251,001	3,370,132
Net operating income.....	\$ 8,787,744	\$ 7,367,948	\$ 7,476,787
Other income	739,586	679,966	619,802
Gross income	\$ 9,527,330	\$ 8,047,914	\$ 8,096,589
Less: Deduction from gross income	1,326,503	815,913	950,214
	\$ 8,200,827	\$ 7,232,001	\$ 7,146,375
Less: Interest on funded debt..	2,834,041	2,523,599	2,299,236
Net income	\$ 5,366,785	\$ 4,708,401	\$ 4,847,139
Surplus unappropriated Jan. 1..	\$ 8,254,406	\$ 7,614,189	.....
Transferred from net income....	\$ 5,366,785	\$ 4,708,401	\$ 4,847,139
Less: Dividends paid during year	4,307,126	3,955,600	3,942,340
Balance carried to surplus....	\$ 1,059,660	\$ 752,801	\$ 904,799
Miscellaneous added to surplus .....	.....	5,209	.....
	\$ 9,314,065	\$ 8,372,200	.....
Less: Surplus applied to other reserves and miscellaneous deductions	130,848	117,795	.....
Surplus balance Dec. 31....	\$ 9,183,217	\$ 8,254,405	.....
The balance sheet follows:			
Assets			
	1921	1920	1919
Plant, equipment and investments.	\$136,310,574	\$123,256,359	\$114,817,088
Current assets	10,831,789	13,743,021	12,677,457
Prepared accounts	760,514	1,232,175	.....
Unadjusted debits	2,102,454	1,478,046	.....
Reserve funds	2,030,089	1,916,130	1,886,360
			1,770,460
Total assets	\$152,035,420	\$141,625,731	\$130,151,365
Liabilities			
Capital stock	\$ 55,465,000	\$ 50,978,000	.....
Subscription to capital stock....	88,750	163,600	.....
			\$50,422,800
Five per cent first mortgage gold bonds outstanding	38,631,000	38,631,000	38,631,000
Other bonds and notes.....	19,000,000	13,000,000	8,000,000
Current liabilities	4,432,764	6,754,394	2,950,136
Accrued liabilities	4,509,663	3,722,420	3,807,718
Unadjusted credits	502,301	540,011	524,989
Total reserves	20,222,725	19,531,900	18,200,531
Surplus unappropriated	9,183,217	8,254,406	7,614,189
Total liabilities	\$152,035,420	\$141,625,731	\$130,151,365

Directors.—Henry A. Blair, Watson F. Blair, Benjamin Carpenter, Robert T. Lincoln, John J. Mitchell, James A. Patten, John G. Shedd, Solomon A. Smith, Samuel Insull.

Officers.—Samuel Insull, president; Louis A. Ferguson, John F. Gilchrist, William A. Fox, John H. Gulick, vice-presidents; Edward J. Doyle, secretary and treasurer; Robert L. Elliott, assistant secretary; Richard Mueller, assistant secretary; George E. Burns, assistant treasurer; Henry E. Addenbrooke, auditor; Thomas J. Walsh, assistant auditor; David Levine, assistant auditor.

COMMONWEALTH POWER, RY. & LIGHT

COMMONWEALTH Power, Railway & Light Co., incorporated in Maine in 1910 as a holding company to consolidate certain gas, electric light and power and traction properties, controls through stock ownership the following companies:

Consumers Power Co.
Central Illinois Light Co.

Illinois Power Co.
Southern Indiana Gas & Electric Co.
Springfield Light, Heat & Power Co.
Northern Ohio Traction & Light Co.
Grand Rapids Railway Co.
Michigan Railroad Co.
Michigan United Railways Co.
Rockford City Traction Co.
Rockford & Interurban Railway Co.
Grand Rapids, Holland & Chicago Railway.
Janesville Traction Co.

The Consumers Power Co. serves 104 communities in Michigan, including Grand Rapids, Jackson, Kalamazoo, Flint, Pontiac, Saginaw and Bay City, with electric light and power artificial gas, steam and hot water heat and water. According to the 1920 census, these cities had a total population approximating 175,000 and an area in square miles of 125,000. In excess of 140,000 customers are served with electric light and power and 62,000 with gas.

The capitalization of Consumers Power Co. outstanding, as of October 31, 1922, was as follows: Preferred 6 per cent stock, \$12,902,000; preferred 7 per cent stock, \$3,347,000; common stock, \$16,175,000. The funded debt aggregates \$38,758,400.

The Central Illinois Light Co. serves with electric light and power, artificial gas, steam and hot water heat 35 communities in the State of Illinois, including Peoria and Pekin, with a population of 115,000. The capitalization of the corporation is as follows: Preferred 6 per cent stock, \$2,368,900; preferred 7 per cent, \$1,071,700; common, \$5,000,000. The funded debt aggregated on October 31, 1922, \$8,213,000.

The Illinois Power Co. serves the cities of Springfield, DeKalb and Sycamore, Illinois, with a population approximating 95,000, with electric light and power, artificial gas, and street railway, etc. The capital stock totals \$5,025,000, divided as follows: Six per cent preferred, \$1,500,000; 7 per cent preferred, \$625,000; common, \$2,900,000. The funded debt aggregates \$4,943,000.

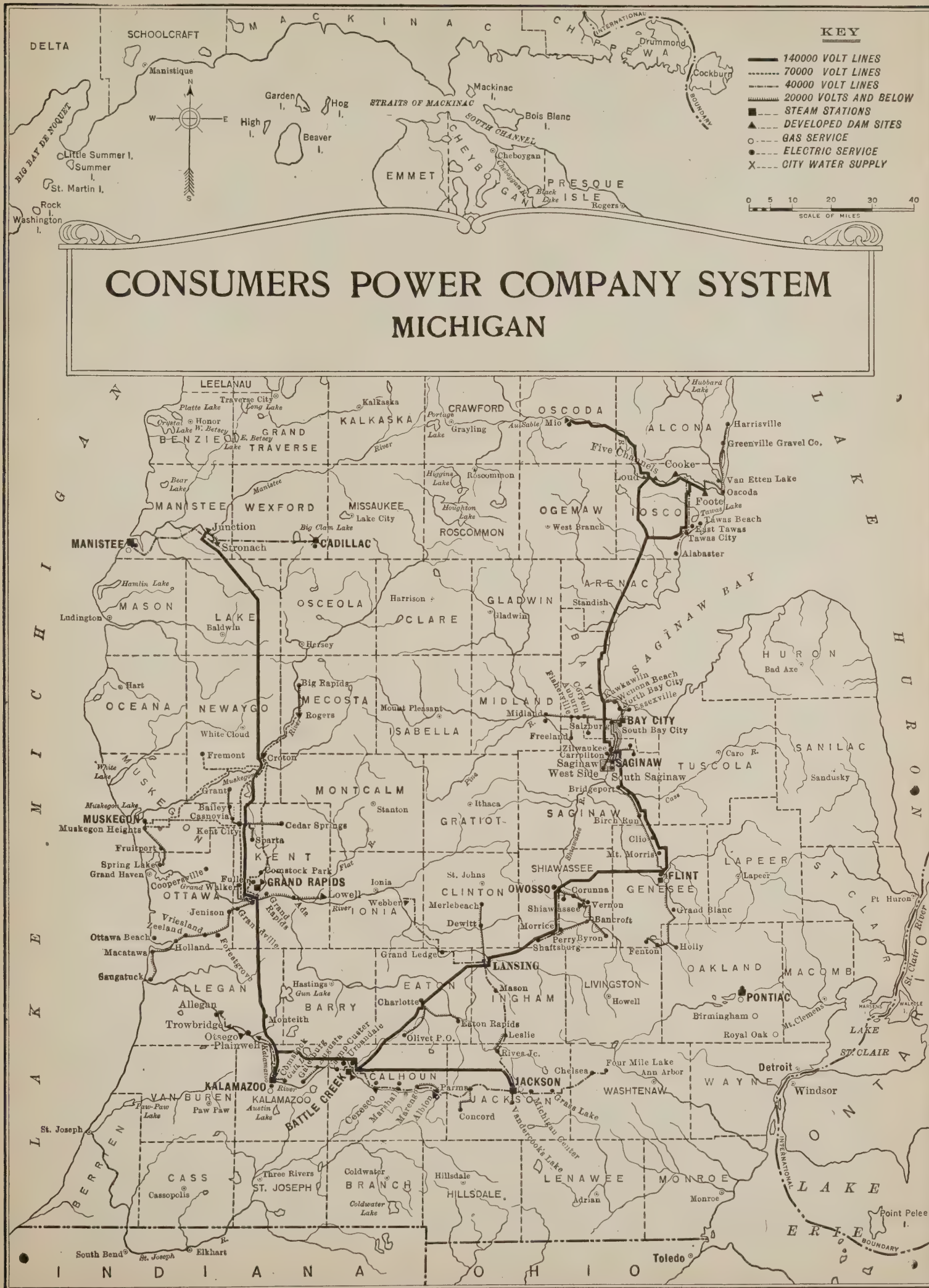
Southern Indiana Gas & Electric Co. serves with electric light, power, artificial gas, street and interurban railway, steam and hot water heat, ten communities in Indiana, including Evansville and Princeton, having an estimated population of 100,000. The capitalization totals \$5,843,700, divided as follows: Six per cent preferred, \$2,208,700; 7 per cent preferred, \$635,000; common, \$3,000. The funded debt totals \$6,012,600.

The Springfield Light, Heat & Power Co. supplies eight communities in Ohio, including Springfield and Urbana, with electric light and power, steam and hot water heat, containing a population of approximately 74,000. The total capitalization is \$1,678,400, divided as follows: 6 per cent preferred, \$274,300; 7 per cent preferred, \$404,100; common, \$1,000,000. Funded debt is \$1,715,000.

Eastern Ohio Traction & Light Co. on October 31, 1922, had 44,952 electric customers. The service rendered, electric light and power, street and interurban railway, included the Cleveland-Akron-Canton industrial section of Ohio, traction lines in Akron, Canton, Massillon for 103 miles of track. Interurban lines run from Cleveland to Akron, to Canton to Massillon to Uhrichville, with branches from Akron to Ravenna and to Wadsworth for a total of 142 miles. In addition to the electrical business in Akron, several nearby communities are served. According to the 1920 census, the population in this territory approximated 1,500,000. This corporation had, on October 31, 1922, 2,686 stockholders and was capitalized as follows: 6 per cent preferred stock, \$4,614,400; preferred stock, 7 per cent, \$1,573,600; common \$9,100,000. The funded debt aggregated \$20,671,000.

The Grand Rapids Railway Company had capital outstanding on October 31, 1922, totaling \$4,000,000 divided \$2,000,000 equally between 5 per cent preferred and common stock. This corporation operates a street railway in Grand Rapids, Michigan. The funded debt is \$3,700,000.

Michigan Railroad Co. serves a population approximating 450,000, with an interurban railway running from Grand Rapids to Kalamazoo and to Battle Creek, and a second line from Bay City, through Sakinaw, to Flint, for a total of 156 miles of track in the state of Michigan. Only one class of stock exists, the common, and the issue aggregates \$4,000,000. The funded debt is \$8,200,000.



Michigan United Railways Co. serves a population estimated at 220,000, with street railway in Lansing, Jackson, Battle Creek and Kalamazoo, for a total trackage of 107 miles. An interurban railway runs from Kalamazoo through Battle Creek to Jackson, Lansing and St. Johns, and from Lansing to Owosso and Corunna for a total of 151 miles of track. The capitalization includes \$1,000,000 preferred stock and \$6,000,000 common. The funded debt aggregates \$13,-045,000.

The Rockford City Traction Co. serves Rockford, Illinois, with a street railway. Its capital stock, all common, outstanding \$2,000,000. Funded debt, \$1,162,500.

The Rockford & Interurban Railway Co. runs interurban lines from Rockford to Belvidere and Freeport, from Rockford to Beloit and Janesville, Wis. The capital stock is \$4,000,000, divided as follows: \$2,000,000 preferred; \$2,000,000 common. The funded debt is \$1,944,000.

The Grand Rapids Holland & Chicago Railway is an interurban line from Grand Rapids through Zeeland and Holland to Macatawa Park and Ottawa Beach and from Holland to Saugatuck, Michigan, a total of 76 miles of track. The capitalization of the corporation is as follows: Preferred stock, \$836,800; common, \$487,900. Funded debt is \$1,500,000.

DeKalb-Sycamore & Interurban Traction Co. runs interurban lines from DeKalb to Sycamore, Illinois, serving a community of 12,000; distance approximately 7.69 miles.

The Janesville Traction Co. serves Janesville, Wisconsin, having a population of approximately 18,300, with transportation. Common stock, \$125,000; funded debt, \$50,000.

The Michigan Railroad Co., the Grand Rapids, Holland & Chicago Railway, is entirely owned by the Commonwealth Power Railway & Light Co. The Rockford City Traction Co. is owned by the Rockford & Interurban Railway Co., while the Rockford & Interurban Railway Co., the DeKalb, Sycamore & Interurban Traction Co., and Janesville Traction Co. is owned entirely by the Union Railway, Gas & Electric Co. All these properties are under the supervision and management of Hodenpyl, Hardy & Co., Inc., New York and E. W. Clark & Co., Philadelphia.

DUBUQUE ELECTRIC COMPANY

INCORPORATED June 3, 1916, in Delaware. Successor to the Union Electric Co. Does entire electric lighting and power business in Dubuque, Iowa, and surrounding communities, serving a population of about 50,000.

Capital Stock—Common, \$2,000,000 authorized; outstanding common, \$682,000; preferred, \$800,000.

Funded Debt—\$2,415,000 first gold 5s, dated June 1, 1917, due June 1, 1925. Authorized issue, \$6,000,000. Subject to call on any interest date at 101 and interest on 30 days' notice. Sinking fund beginning June 1, 1917, provides for 10% of gross earnings.

\$62,500 three-year 8% secured notes dated December 1, 1921, due December 1, 1923.

EARNINGS—12 MONTHS ENDING OCTOBER 31

	1922	1921
Gross earnings	\$1,048,318.03	\$988,151.47
Operating expenses	700,534.05	706,479.52
Net earnings	\$ 347,783.98	\$281,671.95
Interest	131,138.00	121,083.79
Balance	\$ 216,645.98	\$160,588.16

EAST BAY WATER COMPANY

THE East Bay Water Company, a California corporation, was formed November 13, 1916. The company, with its predecessors, has been engaged for the past fifty-six years in the production, distribution and sale of water for domestic and industrial purposes. The territory served by the East Bay Water Company includes the cities of Oakland, Berkeley, Alameda, Piedmont, Emeryville, Albany and San Leandro in Alameda County and Richmond in Contra Costa County, California. These prosperous and established communities located on the eastern shore of San Francisco Bay, directly opposite the City of San Francisco, are closely linked by growth and rapid

transportation facilities into a modern metropolitan area. Their combined population is estimated at 400,000.

Alameda County, in which the major portion of the company's system is located, ranks third in population and first in manufactures among the counties of California. Every transcontinental railroad entering Central California ends its land journey either at Oakland or Richmond, passengers and freight being ferried across the bay to San Francisco. These railroads are the Southern Pacific, the Atchafalaya, Topeka & Santa Fe and the Western Pacific. Among the important products of manufacture are gasoline, illuminating and lubricating oils, copra cake and coconut oil, chemicals used in aniline dyes, tractors, engines, automobiles, canned fruits and vegetables, airplanes, munitions, lumber, food products and steel.

The East Bay territory is likewise noted for its large percentage of substantial homes, the owners of which have been attracted to this section by reason of its excellent climate, growing business opportunities, adequate transportation facilities, superior schools and colleges and proximity to San Francisco.

OUTSTANDING CAPITALIZATION

First Mortgage 5½% Bonds due January 1, 1946.....	\$9,782,700
Unifying and Refunding Mortgage Bonds:	
Series "A"	2,500,000
Series "B"	3,000,000
Class "A" Preferred Stock.....	6,099,200
Class "B" Preferred Stock.....	2,987,200
Common Stock	100,000

The company was formed under the supervision of the Railroad Commission of the State of California. A valuation of the properties of the company was made by the Railroad Commission at that time, and its capitalization was based upon that valuation. Additional securities have been issued since that time only with the authorization of the Railroad Commission to provide funds for extensions and improvements to the property.

EARNINGS

	1920	1921	1922 Estimated
Gross operating revenues.....	\$2,406,144.68	\$2,526,184.80	\$2,905,000
Operating expenses, taxes, depreciation	1,268,630.55	1,307,775.55	1,370,000
Net operating revenue	\$1,137,514.13	\$1,218,409.25	\$1,535,000
Non-operating revenue net	20,820.82	28,961.28	25,000
Net revenue	\$1,168,334.95	\$1,247,370.53	\$1,560,000
Total interest chargeable to operation	738,984.81	813,733.46	880,000
Balance	\$ 419,350.14	\$ 433,637.07	\$ 680,000

ILLINOIS NORTHERN UTILITIES CO.

(Subsidiary of Middle West Utilities Co.)

THIS company was incorporated under the laws of the state of Illinois on July 31, 1916, as the result of the consolidation of the Illinois Northern Utilities Company (Organized in April, 1912), Freeport Railway & Light Company and the Tri-County Light & Power Company, all Illinois corporations. It has acquired and now owns in fee all the properties formerly belonging to twenty-nine separately operated companies, of which some of the more important are:

Belvidere Gas & Electric Company.
Sterling Gas & Electric Company.
Oregon Power Company.
Mendota Light & Heat Company.
Lee County Lighting Company.
DeKalb County Gas Company.
Morrison Gas & Electric Company.
Plano Heat, Light & Power Company.
Freeport Railway & Light Company.

In addition the company operates the Sterling, Dixon & Eastern Electric Railway Company, owning its entire issue of stocks and bonds.

The company operates in 16 counties, in the western half of northern Illinois, and serves 75 communities. The territory served by the company adjoins on the west the territory served by the Public Service Company of Northern Illinois. It supplies gas and electricity for light, heat and power; and operates street and interurban electric railways.

Gas plants are maintained and operated in the cities of DeKalb, Sterling, Geneseo, Mendota, Belvidere, Dixon and Morrison; gas is also distributed in Rock Falls and Sycamore estimated population of 50,000.

Electric Department.—Seventy-five communities with a combined population of 135,000 are served with electricity; among the principal cities in which current is distributed are Sterling, Freeport, Aledo, Dixon, Belvidere, Oregon, Mendota, Morrison, Fulton, Harvard and Geneseo.

The company produces a considerable amount of power at the hydro-electric station of the Rock River Light and Power Company at Sterling which it operates under a long term lease. This and the company's other hydro-electric plants located at Dixon, Oregon and Freeport enable it to produce a large amount of energy at a low cost.

Railway Department.—The Sterling, Dixon & Eastern Electric Railway, which is controlled, operates the street railway systems in Sterling and Dixon, and an interurban line connecting these two cities. Total mileage of the first track operated is 18.33, of which city lines comprise 6.69 miles and the interurban line 11.64 miles.

Capital Stock.—Preferred 6 per cent cumulative, authorized \$9,750,000, outstanding \$2,863,900; second preferred 6 per cent, authorized \$250,000, outstanding \$250,000; common, authorized \$5,000,000, outstanding \$4,635,000; total \$7,748,900.

Bonds:

Illinois Northern Utilities Company First and Refunding Mortgage 5% gold bonds, dated April 1, 1912, due April 1, 1957. Interest payable semi-annually April 1 and October 1. Redeemable at 105 and interest on 60 days' notice. Certified and outstanding\$5,214,000

UNDERLYING LIENS—AS OF DECEMBER 31, 1921

DeKalb County Gas Company First Mortgage 5% gold bonds, dated January 1, 1902, due January 1, 1927. Interest payable semi-annually, January and July 1.....\$	199,500
Sterling Gas & Electric Light Company 25-Year 5% gold bonds, dated June 1, 1902, due June 1, 1927. Interest payable semi-annually, June and December 1.....	249,500
Amboy Light & Power Company 6% bonds, dated May 10, 1907, due serially. Interest payable semi-annually, May 10 and November 10	1,400
Freeport Railway, Light & Power Company 5% First Mortgage gold bonds, dated May 1, 1903, due \$5,000 annually until 1921, the remainder due in 1922. Interest payable semi-annually May and November 1.....	271,000
Freeport Railway & Light Company First and Consolidated Mortgage 5% gold bonds, dated November 1, 1910, due November 1, 1935. Interest payable semi-annually May 1 and November 1	140,000
Tri-County Light & Power Company 6% first and refunding 40 year gold bonds, dated November 15, 1912, due November 15, 1952. Interest payable semi-annually May and November 15	40,000

Total funded debt.....\$6,115,400

Dividends, on preferred, 1½% quarterly—paid to date.

Following is the income account for the year ended Dec. 31, 1921, including Sterling, Dixon & Eastern Electric Railway Company:

INCOME ACCOUNT

	1921	1920
Gross earnings, including merchandise sales	\$1,987,320.57	\$1,875,895.47
Operating expenses, including taxes	1,331,894.63	1,307,925.77
Net earnings	\$ 655,425.94	\$ 567,969.70
Less:		
Interest on bonds.....	\$ 302,910.55	\$ 293,616.43
Interest on notes and accounts	27,374.52	32,489.28
Water power rental	42,102.29	40,007.79
Amortization of bond discount	11,425.49	8,953.39
Net income for year.....	\$ 271,613.09	\$ 192,902.81

SURPLUS

Balance, January 1	\$ 170,311.21	\$ 108,108.99
Net income for year ending December 31	271,613.09	192,902.81
Dividends paid—preferred stock	150,360.04	130,700.59
Surplus, December 31.....	\$ 291,564.26	\$ 170,311.21

The balance sheet for the year ending Dec. 31, 1921 follows:

ASSETS

Plants, Real Estate, etc.....	\$13,980,741
Other Investments	33,775
Current Assets	465,818
Prepared Expenses	96,489
Unamortized Discount and Expense on Funded Debt and Capital Stock	413,453
	\$14,990,278

LIABILITIES

Capital Stock:	
Preferred	\$ 2,863,900
Second Preferred	250,000
Common	4,635,000
Funded Debt	6,115,400
Notes payable	\$366,056

Accounts Payable	194,073
Customers' Deposits, etc.	31,655
Total Current Liabilities.....	591,785
Interest Accrued	\$ 79,462
Taxes Accrued	68,973
Rentals Accrued	4,228
Total Accrued Liabilities.....	152,664
Depreciation Reserve	\$ 57,333
Contributed Reserve	18,015
Other Reserves	14,615
Total Reserves.....	89,964
Surplus	291,564
	\$14,990,278

Directors.—E. D. Alexander, Walter S. Brewster, William A. Fox, John H. Gulick, George W. Hamilton, Martin J. Insull, Samuel Insull.

Officers.—Samuel Insull, President; E. D. Alexander, Vice-President; John H. Gulick, Secretary and Treasurer; J. A. O'Connell, Assistant Secretary and Assistant Treasurer; Louis E. Jacobson, Auditor, Eustace J. Knight, Assistant to Vice-President.

General Offices.—Dixon, Ill.

Annual Meeting.—Last Monday in February.

ILLINOIS BELL TELEPHONE CO.

THE Illinois Bell Telephone Company is the name adopted by the former Chicago Telephone Company in December, 1920. The original company has been incorporated in 1881. Through ownership of practically all of the stock, the American Telephone & Telegraph Co. is the controlling power. On November 30, 1920, the Illinois Bell purchased the entire telephone property of the Central Union Telephone Co. in Illinois, and now owns and operates the Bell system in Chicago and most of the state. The Chicago City Council has the right to purchase at stated times the property within the city limits at a he hen cost of duplication, plus 5 per cent. Three per cent of the company's gross receipts is paid to the city annually as a tax on earnings. Rates are set by the Illinois Public Utilities Commission.

The company now operates about 900,000 telephones of which over 600,000 are in Chicago.

Capital.—The authorized capital stock is \$50,000,000. Dividends at the rate of 8 per cent per annum have been paid quarterly from 1908 to date. In December, 1908, an extra dividend of 20 per cent in stock was paid. Before that time, the regular dividend was 20 per cent.

Funded Debt.—The company's funded debt consists of \$19,044,000 first mortgage 5s, dated 1908, due 1923, interest June and December 1; \$15,530,179 notes due December 1, 1923, and \$553,000 in other bonds and real estate mortgage notes assumed.

The income for the years ended December 31, compare as follows:

	1921	1920	1919
Telephone operating revenues.....	\$44,469,882	\$33,201,707	\$11,796,230
Telephone operating expenses.....	33,141,840	28,035,961	9,421,701
Net telephone oper. revenues...	\$11,328,042	\$ 5,165,745	\$ 2,374,533
Net other operating revenues.....	3,699	2,126	.....
Total net operating revenues...	\$11,331,741	\$ 5,167,872	.....
Deduct—			
Uncollectible operating revenues.	136,827	48,917	.....
Taxes assignable to operations..	3,620,604	2,442,994	799,814
Operating income	\$ 7,574,309	\$ 2,675,960	\$ 1,574,724
Non-operating revenues—net	274,510	157,582	85,245
Total gross income.....	\$ 7,849,119	\$ 2,833,542	\$ 4,091,396
Rent and miscellaneous deductions..	180,840	135,698	.....
Interest deductions	2,042,327	1,271,383	1,058,216
Balance net income.....	\$ 5,625,951	\$ 1,426,460	\$ 3,033,179
Dividends	3,600,000	3,200,000	3,200,000
Amount transferred to credit of corporate surplus	\$ 2,025,951	*\$ 1,773,639	*\$ 166,821

*Deficit.

Comparative balance sheets follow:

	1921	1920
Intangible capital	\$ 54,649	\$ 7,719
Plant, land and buildings.....	117,884,221	106,401,323
General equipment	1,907,303	1,696,992
Other long term investments.....	201,270	88,260
Cash, accts. receivable and working assets.....	6,642,496	5,795,061

Accrued income not due.....	4,217	1,777
Deferred debits	445,995	420,575
	\$127,139,974	\$114,411,710
LIABILITIES		
Capital stock	\$50,000,000	\$ 40,000,000
Premiums on capital stock.....	2,911	2,911
Funded debt	35,087,179	35,087,179
Advances from system corporations.....		4,000,000
Accounts payable	4,860,970	3,355,741
Bills payable		2,250,000
Accrued liabilities not due.....	4,044,936	2,599,933
Deferred credit items.....	995,178	953,469
Reserve for accrued depreciation.....	29,512,750	25,530,653
Appropriated surplus		1,842
Corporate surplus	2,636,047	629,980
	\$127,139,974	\$114,411,710

Officers: W. R. Abbott, president; Edgar S. Bloom, vice-president; B. S. Garvey, vice-president; E. G. Drew, secretary; W. J. Boyd, treasurer; U. F. Cleveland, general auditor; F. O. Hale, chief engineer.

Directors: Bernard E. Sunny, chairman; W. R. Abbott, Edgar S. Bloom, D. Mark Cummings, David R. Forgan, Marvin Hughitt, Chauncey Keep, Wm. H. Miner, John J. Mitchell, Theo. W. Robinson, H. B. Thayer.

KANSAS CITY POWER & LIGHT

THE Kansas City Power & Light Company was organized July 29, 1922, under the laws of the State of Missouri, as a consolidation of the Kansas City Power and Light Company and the Carroll County Electric Company. The Kansas City Power & Light Company controls the electric light and power business in Kansas City, Missouri, and also sells, either at wholesale or retail, electric current used in portions of fourteen nearby counties in Missouri and Kansas. Eventually the company should supply practically all the current used within a radius of 100 miles of Kansas City. The steam heating plant at Kansas City, Missouri, is also owned and operated by the company. The total population of the territory served is approximately 575,000.

The physical property includes three electric generating stations with an aggregate installed normal capacity of 84,150 K. W.; 36 sub-stations with transformer capacity of over 95,000 K. W.; 207 miles of high tension transmission lines; 316 miles of underground cable; 1,252 miles of low tension distributing lines, and coal rights in about 7,494 acres of valuable coal lands. Of the installed capacity, 60,000 K. W. (now being increased to 90,000 K. W.) is located at the new Northeast Power Plant, which is one of the most modern and efficient steam generating stations in the country and is so designed that its present installed capacity may be further increased to an ultimate capacity of 240,000 K. W. This company is in the position of being able to use either coal or oil in the operation of its plant and therefore is not handicapped by coal shortages such as existed during the recent strike. At the present time the plants are running about 66 per cent on oil. This is an important factor in the operation of steam plants.

CAPITALIZATION

Capital Stock—		
First preferred stock (no par value).....	250,000 shs.	*100,000 shs.
Participating preferred stock (no par value).....	100,000 shs.	None
Common stock (no par value).....	350,000 shs.	250,000 shs.
Funded Debt—		
First mortgage 30-year 5 per cent gold bonds, Series A, due September 1, 1952.....	(†)	\$21,000,000

*Series "A," including shares reserved to be exchanged for Kansas City Power & Light Company first preferred stock.

†Issuance of additional bonds restricted by provisions of the mortgage.

EARNINGS

12 Months Ended October 31—	1922	1921
Gross earnings	\$7,642,441	\$6,704,012
Operating exps., including maintenance, general and income taxes	4,181,915	3,850,471
Net earnings	\$3,460,526	\$2,853,541
Interest charges	1,218,381	1,066,628
Balance	\$2,242,145	\$1,786,913
Amortization of discount.....	47,662	50,648
Balance	\$2,194,483	\$1,736,265
Dividends on preferred stock.....	361,823	265,777
Balance	\$1,832,660	\$1,470,488
Times interest earned.....	2.85	2.67
Times preferred stock dividends earned.....	6.08	6.53

MIDDLE WEST UTILITIES CO.

THE Middle West Utilities Co. is a holding company organized to acquire and develop public utilities properties in various states. It was incorporated in Delaware in May, 1912. At present it is serving, through its operating subsidiaries, a large number of small communities where it has taken over properties. As of December 31, 1921, Middle West Utilities Company comprised twenty-six subsidiary companies, the common stocks of which are either owned or controlled by the Middle West Utilities Co. Following are the subsidiary companies:

Illinois—Central Illinois Public Service Company, Illinois Northern Utilities Company, Sterling, Dixon & Eastern Electric Railway Company, McHenry County Light & Power Company.

Indiana—Interstate Public Service Company, Indianapolis & Louisville Traction Railway Company, Hydro-Electric Light & Power Company, Southern Indiana Power Company.

Kentucky—Kentucky Utilities Company, Kentucky Light & Power Company.

Virginia—Electric Transmission Company of Virginia.

Tennessee—Citizens Gas Light Company.

Oklahoma and Texas—American Public Service Company, Public Service Company of Oklahoma, Chickasha Gas & Electric Company.

Nebraska—Central Power Company, Nebraska City Utilities Company.

Missouri—Missouri Gas & Electric Service Company.

Wisconsin—Southern Wisconsin Electric Company, North West Utilities Company.

Michigan—Michigan Gas & Electric Company.

Wisconsin and Michigan—Ironwood and Bessemer Railway & Light Company, Ashland Light, Power & Street Railway Company, Big Falls Water Power Company.

New England—Twin State Gas & Electric Company, Berwick & Salmon Falls Electric Company.

These companies serve 554 communities with a total estimated population of 1,419,500.

Capital—The authorized capital stock includes \$20,000,000 7 per cent cumulative prior lien stock, divided into 200,000 shares of \$100 each; \$20,000,000 cumulative preferred stock with present dividend at 5 per cent, increasing 1 per cent per annum to 7 per cent, divided into 200,000 shares of \$100 each; and 200,000 of common stock of no par value. There have been issued 83,750 shares of \$100 each fully paid of the 7 per cent cumulative prior lien stock; 155,647.2 shares at \$100 each, fully paid, of the cumulative preferred stock; 148,325 shares of common stock of no par value of which 1,489 shares are still in the treasury, and old common stock scrip to the value of \$462.

Dividends—On the prior lien stock 7 per cent has been paid per annum to date, and on the cumulative preferred 3 per cent per annum has been paid for year beginning June 15, 1920, 4 per cent for year beginning June 15, 1921, and dividends are now being paid at the rate of 5 per cent per annum. The company was reorganized on June 15, 1920, when the Middle West Securities Co. was merged with the Middle West Utilities Co. in connection with a plan of reorganization whereby the \$4,000,000 7% prior lien stock of the Middle West Securities Co. was exchanged share for share for new prior lien stock and the 60,000 shares of common stock of no par value were exchanged for common of no par value of the Middle West Utilities Co. The old preferred stock of the Middle West Utilities Co. was exchanged on the basis of \$120 par value of new stock for \$100 par value of the old stock. The old common stock was exchanged share for share for new common stock of no par value.

Funded Debt—The following table gives the status of the funded debt:

	Amount in Hands of Public	Maturity
20-year 8 percent secured gold notes, "C".....	\$ 1,500,000	July 1, 1941
20-year 8 percent secured gold notes, "B".....	2,468,500	Dec. 1, 1940
15-year 8 percent secured gold notes, "A".....	2,500,000	Sept. 1, 1935
10-year 6 percent collateral gold bonds.....	9,462,500	Jan. 1, 1925
5-year 7 percent convertible gold notes.....	2,467,000	Mar. 1, 1924
3-year 6 percent collateral gold notes.....	300,000	*Mar. 1, 1922
	\$18,698,000	

*Paid March 1, 1922.

\$9,462,500 collateral 6 per cent bonds, dated Jan. 1, 1915; due Jan. 1, 1925. Interest paid April and October 1. Callable at 102½ and interest to April 1, 1922, and at 101½ and interest thereafter on 60 days' notice. Authorized amount limited to 75 per cent of outstanding capital stock. Holders

of this issue may exchange bonds, par for par, for any subsequent issue. Secured by subsidiary company bonds in such amounts that the principal of the bonds pledged and the interest annually payable thereon shall always be at least equal to the principal amount of collateral bonds outstanding and interest annually payable thereon.

\$2,467,000 5-year 7 per cent convertible gold notes due March 1, 1924. Secured by deposit of stocks of subsidiaries of the par value of \$3,000,000 and 7,500 shares of common stock of the Middle West Utilities Company.

\$6,475,000 8 per cent secured gold notes, of which \$2,500,000 dated Sept. 1, 1920, due Sept. 1, 1925, \$2,468,500 dated Dec. 1, 1920, due Dec. 1, 1940, and \$1,500,000 dated July 1, 1921, due July 1, 1941. Secured by bonds of subsidiary companies in par amount of \$10,778,500 and are issued under an indenture providing for the issuance of various series on such terms and for such amount as may be authorized by the board of directors, including rate of interest, maturity, collateral required, redemption provisions, etc., provided, however, that all notes of the same series shall bear the same rate of interest and have the same maturity.

Customers and Growth: Following is a comparative statement of the number of customers and electrical connected load of the subsidiaries at the end of each of the last five fiscal periods:

Number of customers.....	1918	1919	1920	1920	1921
	Apr. 30	Apr. 30	Apr. 30	Dec. 31	Dec. 31
Electric	158,000	178,875	208,829	226,094	262,361
Gas	47,500	50,022	53,211	54,500	56,187
Water	20,000	21,231	23,534	24,064	25,681
Total	225,500	250,128	285,574	304,658	344,229
Connected load in horse pwr.	301,900	412,500	474,200	516,400	612,800

The following table shows the remarkable growth of the Middle West Utilities Company since 1916:

Number of communities served	1916	1917	1918	1919	1920	1921
El. lt. and power	348	388	427	465	478	543
Gas	35	39	44	47	50	51
Heating	21	16	17	18	18	9
Ice	28	33	51	47	47	46
Railways	16	15	17	17	19	21
Water	22	24	27	28	29	31
Population served	929,000	1,055,300	1,208,800	1,297,150	1,309,900	1,419,500

The following table shows the yearly increases in plant accounts of the subsidiary companies for construction only, during the past five years:

Year 1917.....	\$ 4,038,498.00
Year 1918.....	3,120,308.00
Year 1919.....	5,757,121.22
Year 1920.....	8,292,646.02
Year 1921.....	6,649,896.57

Total increase.....\$27,858,469.81

The principal business of the subsidiary companies is the generation, transmission and distribution of electrical energy for power, light and heat, providing in the last fiscal year 64.3 per cent of their gross earnings.

A complete analysis of their total gross earnings is shown in the following table:

Electric earnings	\$16,911,924.00	64.3%
Railway earnings	2,602,543.00	9.9%
Ice earnings	2,026,657.00	7.7%
Gas earnings	1,958,719.00	7.4%
Merchandise and job work earnings.....	1,272,940.00	4.8%
Water, heat and other earnings.....	1,575,451.05	5.9%
Total	\$26,348,234.05	100.0%

The income account for the year ended Dec. 31, 1921, compares as follows:

INCOME ACCOUNT		
SUBSIDIARY COMPANIES		
	1921	1920
Gross earnings	\$26,348,234	\$22,729,922
Gross expenses	18,828,084	17,058,475
Net earnings from op.....	\$ 7,520,150	\$ 5,671,446
Rentals leased property.....	256,224	*
	\$ 7,263,926	\$ 5,671,446
Earn. sub. cons. cos.....	117,458	*
	\$ 7,381,384	\$ 5,671,446
Bond and other int. chrg., disc. amor. on secur., stk. div. on proper, of undistrib. earning to outside holders.....	4,078,849	3,544,250
Total accrued earnings.....	\$ 3,302,535	\$ 2,127,186
Balance at December 31, 1921.....	\$ 51,947.48	

INCOME ACCOUNT—MIDDLE WEST UTILITIES

Earn. from subsid.....	\$ 3,302,535	\$ 2,127,186
Other income	633,004	712,116
	\$ 3,935,539	\$ 2,839,302
Admin. exp. tax, etc.....	390,572	339,592
	\$ 3,544,967	\$ 2,499,710
Int. on bonds, notes, collat. loans, etc.....	1,434,664	1,247,660
Net inc. for year.....	\$ 2,110,303	\$ 1,252,050
Div., prior lien stock.....	384,745	73,200
	\$ 1,725,558	\$ 1,178,850
Div. on pfd. stock.....	518,152	238,302
Combined surplus earn. for year.....	\$ 1,207,406	\$ 940,548

*Published figures for calendar year 1920 not given as separate item.

Following is the comparative balance sheet:

ASSETS		
	1921	1920
Plants, securities, goodwill, etc.....	\$51,534,535	\$44,321,826
Notes and accounts receivable.....	3,444,433	4,893,494
Cash, interest accrued, etc.....	2,031,587	2,374,412
Total	\$57,010,555	\$51,589,732
LIABILITIES		
Capital stock issued.....	\$34,436,282	\$30,061,282
Funded debt	18,698,000	16,895,500
Collateral loans, accrued dividends, accounts payable, reserves, etc.....	3,063,225	4,423,331
Surplus	813,048	209,619
	\$57,010,555	\$51,589,732

The various surplus accounts belonging to the company aggregating \$4,929,966.18, made up as follows:

Surplus on the books of the company.....	\$ 813,047.64
Reserve accounts carried on the books of the company.....	1,348,259.50
The company's proportion of the insurance fund held by insurance trustees	575,160.67
The company's proportion of the aggregate surplus carried on the books of the subsidiary companies.....	2,193,498.37
Of this last amount \$1,319,305.45, after all adjustments due to consolidation of properties, etc., has accrued since the formation of the Middle West Utilities Company	

Total

Directors: Frank J. Baker, Walter S. Brewster, Britton I. Budd, Edward J. Doyle, Louis A. Ferguson, William A. Fox, John F. Gilchrist, John H. Gulick, Martin J. Insull, Samuel Insull, E. W. Lloyd, Charles A. Munroe, L. E. Myers, Edward P. Russell, Marshall E. Sampsell.

Officers: Samuel Insull, President; Martin J. Insull, Vice-President; John F. Gilchrist, Vice-President; Oliver E. McCormick, Treasurer; Eustace J. Knight, Secretary and Asst. Treasurer; R. E. McKee, Assistant Secretary; E. A. Davis, Auditor; Ralph D. Stevenson, Counsel.

SUBSIDIARIES OF MIDDLE WEST UTILITIES CO.

American Public Service Company of Delaware

This company was organized October 11, 1912. Capital stock authorized \$15,000,000 common and \$10,000,000 7 per cent cumulative preferred. Outstanding, \$2,322,320 common and \$1,100,600 preferred.

Funded indebtedness as of December 31, 1921, \$5,386,200 first lien 6 per cent gold bonds, \$1,003,000 general lien 6 per cent gold bonds, \$200,000 7 per cent serial gold notes due March 1, 1921 to 1923, and \$753,500 7½ per cent collateral gold notes due in 1925, \$500,000 8 per cent collateral gold notes, series C, due in 1941.

This company's subsidiaries operate utilities in 23 towns in the states of Texas and Oklahoma, serving a combined population of approximately 110,000, of which 21,509 are customers.

Income account for the year ended December 31, 1921, follows:

INCOME ACCOUNT		
Gross earnings—including inter-company earnings.....	\$2,627,446.26	
Operating expenses—including taxes.....	1,573,206.84	
Miscellaneous income	37,857.84	
Holding company expenses—net.....	94,296.24	
Net earnings	\$ 997,801.02	
Interest on funded debt, res. for dep. and amortized discount and expense on Bonds and Notes.....	625,664.81	
Net income available for dividends, dep., etc., subject to deduction of income and excess profits taxes.....	\$ 372,136.21	
SURPLUS ACCOUNT		
Balance—January 1, 1921.....	\$ 466,933.27	
Net income for year to December 31, 1921—as above.....	372,136.21	
	\$ 839,069.48	
Dividends paid	787,122.00	

Ashland Light, Power & Street Railway Company

The company serves three communities in northern Wisconsin, having a combined population of approximately 15,500. Each of these receives electric service, and in addition furnishes gas and street railway service in Ashland. Earnings for the year ended December 31, 1921, was as follows:

Gross earnings	\$398,710.74
Expenses, including taxes.....	305,055.98
Net earnings	\$ 93,654.76

At the close of the fiscal year, the company had 2,678 electric customers and 960 gas customers. Its electrical connected load as of that date was 5,165 kilowatts.

During the year improvements were made in the company's electrical distribution system in the city of Ashland; fourteen blocks of White Way street lighting were installed by the city and electric current for same contracted for by the company.

Central Power Company

This company was organized in December, 1914, and operates in various towns in the valley of the Platte River in Nebraska. Its principal stations are at Grand Island, Kearney and Boelus, including steam plants at Grand Island and Kearney and modern hydro-electric plants at Kearney and Boelus. Present total rated capacity of stations is 7,100 K. W. At Kearney there is also a modern gas plant, having a capacity of 200,000 cubic feet.

Chickasha Gas & Electric Company

The company operates electric and gas utilities in Chickasha, Oklahoma, and also serves with electricity Ninnekah and Verden, Oklahoma. Total electric and gas customers are 3,685. Following is statement of earnings and expenses for the year ended December 31, 1921 and 1920:

	1921	1920
Gross earnings	\$197,091	\$188,335
Operating expenses, including taxes.....	138,284	134,224
Net earnings	\$ 58,807	\$ 54,611

Interstate Public Service Company

On January 1, 1921, a consolidation approved by the Public Service Commission was effected of the Louisville and Southern Indiana Traction Company, Louisville and Northern Railway and Lighting Company, United Gas and Electric Company, New Albany Water Works, and the Central Indiana Lighting Company, with the Interstate Public Service Company.

The earnings and expenses of the company for the fiscal year were as follows:

	1921	1920	1919
Gross operating income.....	\$3,956,407	\$2,035,197	\$1,650,279
Operating expenses (including taxes)...	3,098,180	1,568,990	1,241,636
Miscellaneous income	\$ 858,226	\$ 466,207	\$ 408,643
	64,765	197,497	111,637
Rental of leased railway property.....	\$ 922,992	\$ 663,704	\$ 520,280
	155,100	138,600	138,600
	\$ 767,892	\$ 525,104	\$ 381,680

The gross income from interurban railway operation was \$1,573,689.05, an increase of 105 per cent, and from the operation of other utilities, \$2,174,824.42, an increase of 92 per cent over the previous year.

During the year, railway passenger rates were increased from 2½c to 3c per mile, and increases in rates were also granted for electric service furnished at Campbellsburg, Corydon, New Albany and Jeffersonville and for gas service furnished at Aurora, Greenfield and New Castle.

On November 1, 1921, the company purchased all of the common stock of the Hydro-Electric Light and Power Company of Connersville, Indiana, on very advantageous terms. This company supplies power to the town of Connersville

Ironwood & Bessemer Railway & Light Company

The company serves twelve communities in northern Michigan and Wisconsin, having combined population of approximately 32,500. Each community receives one or more and neighboring towns.

classes of service, including electric light and power, water and street railway.

As of December 31, 1921, the company had 6,148 electric customers and 498 water customers; and the connected load was 17,243 kilowatts. A new long term contract with one of the larger mining groups extends the present contract under terms more favorable to the company and provides for electrification of additional mining properties.

Earnings for the year ended December 31, 1921, follow:

Gross earnings	\$667,655.15
Expenses, including taxes.....	417,158.26
Net earnings	\$250,496.89

The gross earnings increased 9.4 per cent and the net earnings 11.3 per cent as compared with the earnings for the year 1920.

Michigan Gas & Electric Company

This company was incorporated in November, 1906, as the Houghton County Gas & Coke Company. The name was changed to Michigan Gas & Electric Company in February, 1917, after the company had acquired the Marquette County Gas & Electric Company, Constantine Hydraulic Company, Three Rivers Gas Company, Three Rivers Light & Power Company and Milling & Power Company, all situated in Michigan.

Capital stock December 31, 1921, \$500,000 common, \$380,000 preferred, and \$129,700 prior lien. Bonded indebtedness, \$690,600 first and refunding 5 per cent bonds, \$742,000 underlying bonds.

The growth of the company's business is indicated by increase in total number of customers served from 9,762 at December 31, 1920, to 11,087 at the close of 1921—a gain of 1,325 customers, or 13.5 per cent; and by increase in electrical connected load from 11,350 to 14,000 kilowatts—a gain of 2,650 kilowatts, or 23.3 per cent.

The earnings for the fiscal year ended December 31, 1921, follow:

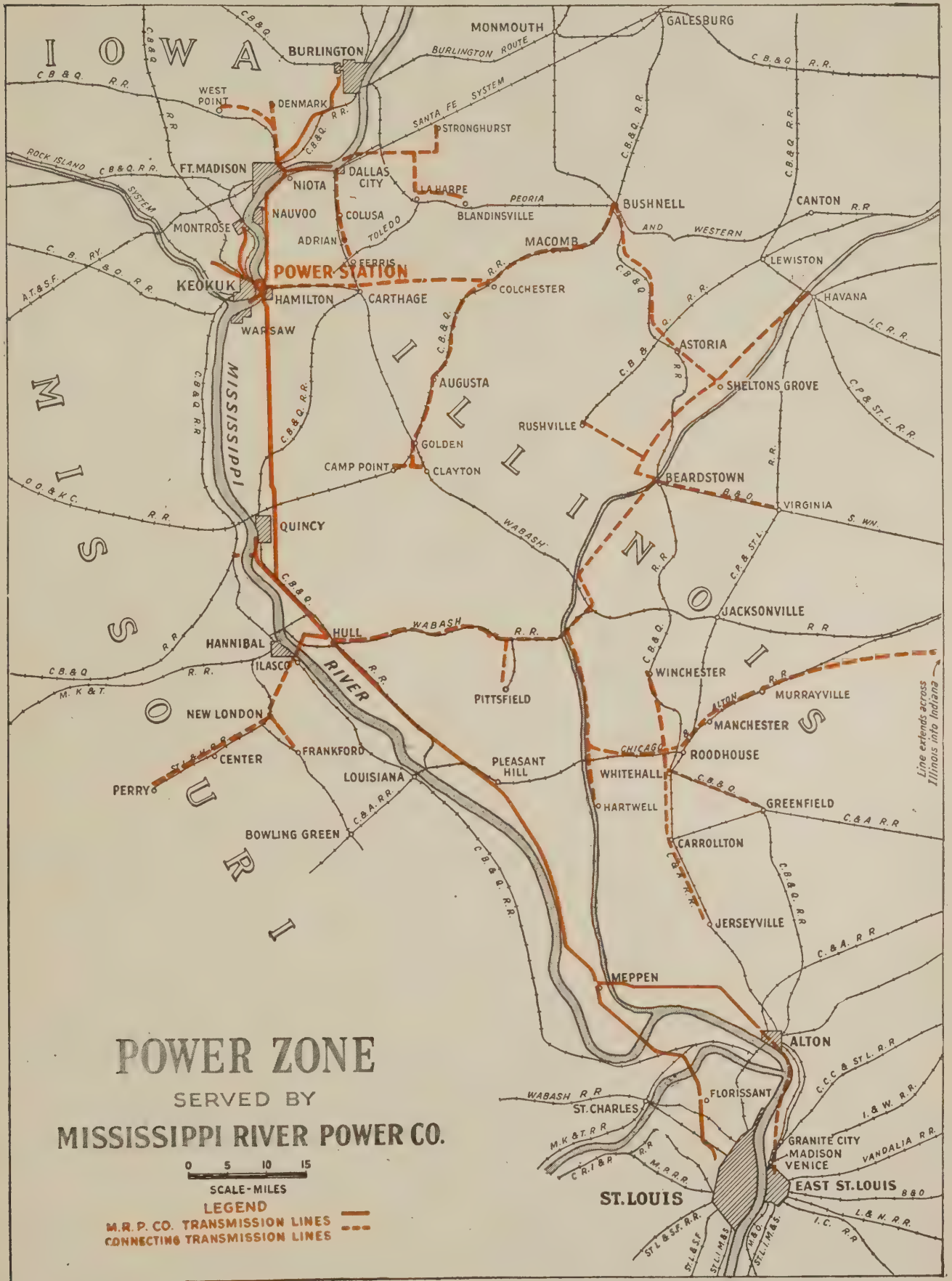
Gross earnings, including merchandise sales.....	\$553,957.80
Operating exp., including taxes and cost of merchandise sales..	434,902.62
Net earnings	\$119,054.68
Interest on bonds	64,274.64
	\$ 54,780.04
General interest and amortization of bond discount.....	35,022.13
Net income	\$ 19,757.91

Public Service Company of Oklahoma

The company was incorporated May 28, 1913, in Oklahoma and operates various public utilities in several towns, among which are Tulsa and Guthrie. The city of Tulsa is maintaining its rapid growth and in addition to being a large oil center it is also an important distributing center for the southwest. In order to take care of the large increase in its business the Public Service Company has entered into a contract for electric energy with the Oklahoma Power Company (a subsidiary company of the American Public Service Company), whose 10,000 k. w. station is located three miles west of Tulsa on the Arkansas River. In addition to its ordinary customers for electric light and power, the company supplies the street lighting in the city of Tulsa, including a modern white way lighting system throughout the business district.

Electric customers increased from 15,442 on December 31, 1920, to 17,375 on December 31, 1921, representing a gain in connected load of 2,517 kilowatts, or 9.5 per cent. The total electrical connected load at the end of the year was 29,005 kilowatts, exclusive of service furnished street and interurban railways. The electrical output of the company shows a substantial increase as does also the tonnage of ice produced. The former was 27,340,567 kilowatt hours for the year, and the latter 43,821 tons.

Capital stock outstanding as of December 31, 1921, \$2,000,500 common, \$500,000 6 per cent cumulative preferred, and \$138,300 7 per cent cumulative prior lien. Funded indebtedness, \$2,844,000 first and refunding mortgage 5 per cent bonds, \$510,900 underlying bonds and \$638,000 general mortgage 6 per cent bonds.



The earnings for the fiscal year ended December 31, 1921, follow:

Gross earnings, including merchandise sales.....	\$1,654,139.41
Operating expenses, including taxes.....	1,121,234.83
Net earnings	\$ 532,904.58
Interest on funded debt.....	202,819.51
	\$ 330,085.07
General interest and Amortization of bond discount.....	35,970.90
Available for dividends.....	\$ 294,114.17
Dividends paid and accrued for the year.....	199,028.00
Balance carried to surplus.....	\$ 95,086.17

The gross earnings for the year 1921 show an increase over the year 1920 of \$137,578.06, or 9 per cent; the operating expenses increased \$57,701.57, or 5.4 per cent; and the net earnings \$79,876.49, an increase of 17.6 per cent. During the fiscal year, the company set aside out of its surplus \$100,000 for depreciation.

Southern Wisconsin Electric Company

The company serves Lake Geneva, Delavan and eight other communities in southeastern Wisconsin and sells energy under wholesale contract to McHenry County Light & Power Company for distribution in Richmond and Hebron, Illinois. The earnings and expenses for the year 1920 were as follows:

	1921	1920
Gross earnings	\$286,030	\$280,498
Operating expenses, including taxes.....	209,246	218,382
Net earnings	\$ 76,784	\$ 62,116

Twin State Gas & Electric Company

This company serves a number of towns in Vermont, New Hampshire, Maine and New York with light, power and gas. During the fiscal year the company added 1,668 electric customers to its lines, making a total of 18,431 connected as of December 31, 1921—with a total electrical load connected in excess of 46,000 h. p. At that date there was connected to the mains 4,501 gas customers, an increase over the preceding year of 140. The growth of the company is shown by the following statement of customers connected as of December 31st each year.

	1918	1919	1920	1921
Electric customers.....	12,743	14,701	16,763	18,431
Gas customers	4,081	4,190	4,361	4,501
	16,824	18,891	21,124	22,932

For the fiscal period ended December 31, 1921, the earnings and expenses of the company including those of the Berwick & Salmon Falls Electric Company, whose stock the company owns, were as follows:

	1921	1920
Gross earnings and sales of merchandise.....	\$1,174,455	\$1,083,547
Oper. exp. inc. taxes and cost of merchandise.....	724,678	716,534
Net earnings	\$ 449,777	\$ 567,013

The gross earnings compared with the preceding fiscal year show an increase of over 8 per cent.

The operating expenses of the electric department were adversely affected by continued low water conditions, but this was materially offset by other economies and efficiencies in operation.

MISSISSIPPI RIVER POWER CO.

INCORPORATED in Maine in 1910, to own and operate hydro-electric plants. Acquired Keokuk & Hamilton Water Power Co. and all rights given latter by Act of Congress, Feb. 9, 1905, providing for construction and operation, without time limit, of a hydro-electric plant on the Mississippi River near Keokuk, Iowa, about half way between Chicago and Kansas City and about 140 miles northwest of St. Louis. Substantially the entire flow of the Mississippi River can be utilized and ultimately 200,000 h. p. will be available. Operations began July 1, 1913. Present installed capacity 150,000 h. p.; in excess of 140,000 h. p. is now being delivered to customers, of which 60,000 h. p. is furnished to public utility companies of St. Louis, under 99-year contract, subject to equitable price adjustment every 10 years based on the then cost of coal. The company also

supplies electric current to Atlas Portland Cement Co., at Ilasco, near Hannibal, Mo., duPont Powder Works, near Keokuk, and to numerous other commercial enterprises. Population served, 1,155,800. The "power zone" served by this company at present extends from Burlington, Iowa, to St. Louis, Mo., and includes the cities of Ft. Madison, Keokuk, Quincy, Hannibal, East St. Louis, Hamilton and Alton. Population within transmission distance, approximately 4,600,000. Under Stone & Webster management, Boston, Mass.

Capital—\$8,841,000 authorized and \$8,229,675 issued of 6 per cent preferred stock, and \$16,000,000 common stock authorized and outstanding. Preferred is callable at any time at 115 and divs.

Dividends—Company in March, 1921, declared a dividend of \$37.50 per share, payable in preferred stock in payment of all deferred preferred dividends to and including January 1, 1921. Six per cent cash on preferred from January 1, 1921, to date.

Funded Debt—\$18,829,700 1st Mtge. 5s, dated Mch. 10, 1911; due Jan. 1, 1951. Interest, Jan. and July 1. Callable at 105 and int. Authorized, \$25,000,000 of which \$1,818,600 are in sinking fund, canceled; the remaining \$4,351,700 unissued bonds are issuable for 80 per cent of cost of extensions and betterments. Sinking fund, Jan. 1, 1916, and annually thereafter, 1 per cent of face value of all bonds outstanding Sept. 1 preceding.

\$3,486,500 15-year 7 per cent gold coupon debentures due Nov. 1, 1935. Authorized \$5,000,000 of which \$113,500 are in sinking fund and \$1,400,000 unissued.

EARNINGS:

Calendar Years:	1921	1920	1919	1918	1917
Gross earnings.....	\$2,742,620	\$2,827,963	\$2,321,954	\$2,213,391	\$1,976,461
Operating expenses and taxes	720,117	638,622	522,629	446,985	364,395
Net earnings.....	\$2,022,503	\$2,189,340	\$1,799,324	\$1,766,406	\$1,612,066
Int. and amortization charges*	1,240,517	1,208,255	1,230,734†	1,250,907	1,176,804
Bond sinking fund.....				191,909	194,753
Total deductions..	\$1,240,517	\$1,208,255	\$1,230,734	\$1,442,816	\$1,371,557
Balance (for reserves replacements and dividends)	781,985	981,085	568,589	323,590	240,509

*Beginning July 1, 1917, all interest has been charged to operation. Prior to that date, \$151,125 per year was charged to construction, being interest on amount expended for future development.

†Estimated.

Following are the latest earnings for 12 months ended Sept. '30:

	1922	1921	Increase
Gross earnings	\$2,890,563	\$2,782,566	\$107,996
Operating expenses and taxes.....	708,023	729,682	*21,659
Net earnings	\$2,182,539	\$2,052,884	\$129,655
Interest and amortization charges.....	1,236,921	1,234,782	2,139
Balance (for reserves, replacements and dividends)	\$ 945,618	\$ 818,101	\$127,516

*Decrease.

Consolidated statement financial condition Sept. 30, 1922:

ASSETS	LIABILITIES
Property, plant, etc.,....	Common stock.....
Materials and supplies..	Preferred stock†
Investment securities....	Bonds
Advance payments.....	Coupon Debentures....
Notes receivable.....	Accounts payable.....
Accounts receivable.....	Accounts not yet due....
Sinking fund investments	Suspense
Suspense	Operating reserves.....
Unamortized debt discount and expense....	Replacement reserve....
Cash	Preferred dividend res..
	Reserves and surplus....
\$49,511,244	\$49,511,244

†Includes fractional certificates.

Officers—Pres., Harry T. Edgar; Vice-Pres., David Daly, H. L. Cooper; Treas., H. B. Sawyer; Gen. Mgrs., Stone & Webster, Inc.; Sec., Wm. T. Crawford.

Directors—Robert Winsor, Charles A. Stone, Wm. Logan, Edwin S. Webster, Henry B. Sawyer, Hugh L. Cooper, Henry G. Bradlee, Frank W. Remick, Russell Robb, Thos. B. Gannett, Harry H. Hunt, E. Mackay Edgar, Harry T. Edgar, Roger W. Babson, Louis A. G. Dru. General office, Keokuk, Iowa.

PUGET SOUND POWER & LIGHT COMPANY

This company through ownership or control does the greater part of the commercial electric lighting and power business in the Puget Sound District, including the cities of Seattle, Tacoma, Bellingham and Everett, Washington, and substantially all the electric street, and interurban railway business in said district except in Seattle. The company owns or or controls hydro-electric plants with an installed capacity of 117,300 h. p. and an ultimate development of about 175,000 h. p.; steam stations with a present capacity of 46,850 h. p. and street and interurban railways aggregating 281.0 miles of equivalent single track.

Capital—\$10,000,000 Prior Preferred 7 per cent Cumulative stock, redeemable at 110. \$14,793,000 6 per cent Preferred stock, redeemable at 125. Common stock outstanding, \$20,123,800.

Funded Debt—\$13,734,000 General and Refunding Mortgage (Series A), 20 year 7½ per cent Gold Bonds, due May 1, 1941. \$480,400 Five Year 8 per cent Gold Coupon Notes, due September 1, 1926. \$2,000,000 Five Year 8 per cent Gold Coupon Notes, due September 1, 1925 Underlying bonds, \$23,992,000.

Estimated Population Served—Jan. 1, 1922, railway, 515,000; electric light, 469,900; power, 578,400; gas, 26,000.

Earnings for twelve months ending September 30, 1922, compare as follows:

12 Months Ending Sept. 30—	1922	1921
Gross earnings	\$10,292,522	\$10,148,154
Operating expenses and taxes.....	5,826,232	5,938,796
Net earnings	\$ 4,466,289	\$ 4,209,357
‡Income from other sources.....	725,704	750,000
Balance	\$ 5,191,993	\$ 4,959,357
Interest and amortization charges.....	2,477,741	2,582,932
Balance (for reserves, replacements and dividends)	\$ 2,714,252	\$ 2,376,425
‡Income from City of Seattle Utility Bonds.		

Consolidated Statement of Financial Condition Sept. 30, 1922

ASSETS	LIABILITIES
Property, plant, etc.....\$69,802,352	*Common stock .....\$20,123,425
Material and supplies.... 784,445	Subsidiary companies common stock 10,000
Investment securities... 451,005	*Preferred stock..... 14,793,633
Advance payments..... 221,421	*Prior Preference stock. 3,919,580
Notes receivable..... 211,748	Subscriptions to prior preference stock..... 185,556
Accounts receivable..... 1,189,793	Premium on sale of prior preference stock :.... 47,108
Subscribers to prior preference stock 142,788	Bonds (detail below).... 41,539,000
Sinking fund invest'mnts\$ 3,433,058	Coupon notes:
Treasury bonds—E. R. L. & W. Co., 1st mtg.... 815,000	P. S. P. & L. Co., 1925 2,000,000
Suspense	P. S. P. & L. Co., 1926 850,000
Unamortized debt discount and expense 41,358	Car Trust certificates... 25,844
City of Seattle bonds in escrow 13,734,000	Notes payable 515,500
Funds in escrow..... 284,000	Accounts payable..... 404,186
Cash 1,011,132	Accounts not yet due.... 1,566,189
	Suspense 212,103
	Operating reserves..... 157,331
	Replacement reserve.... 5,194,797
	Preferred div. reserve... 3,680
	Reserves and surplus... 1,264,864
\$92,817,799	\$92,817,799

Blackstone Valley Gas and Electric Company

This Company, through direct ownership and the control of The Pawtucket Gas Company, does the entire gas, electric lighting and power business in the Blackstone Valley of Rhode Island, including the cities of Pawtucket, Woonsocket, and Central Falls, the towns of Cumberland, Lincoln, and those adjacent.

Capital—\$1,294,200 6 per cent Cumulative Preferred stock outstanding; \$3,465,000 Common stock outstanding.

Dividends—6 per cent is being paid on the Preferred and 8½ per cent on the Common.

Funded Debt—\$5,000,000 First and General Mortgage 5 per cent Gold Bonds, dated July 1, 1912, due January 1, 1939, of which \$3,833,000 are outstanding.

The Company's principal franchises are unlimited in time. The population served is estimated at 162,700 for electric light and power and 159,800 for gas.

Earnings for the 12 months ended August 31, 1922, compare as follows:

12 Months Ending August 31—	1922	1921
Gross earnings	\$3,910,447	\$3,448,600
Operating expenses and taxes.....	2,477,337	2,424,697
Net earnings	\$1,433,110	\$1,023,903
‡Deductions	105,000	105,000
Balance	\$1,327,610	\$ 918,403
Interest and amortization charges.....	228,658	226,629
Balance (for reserves, replacements and divs.).....	\$1,098,951	\$ 691,773
‡Interest charges on bonds and dividends on outstanding Preferred Stock of The Pawtucket Gas Company of New Jersey.		

Managers—Stone & Webster, Inc., Boston.

Central Mississippi Valley Electric Properties

Central Mississippi Valley Properties was formed in Illinois by a Trust Agreement, under which there is deposited the entire capital stock of Fort Madison Electric Company and Dallas City Light Company and all the capital stock of Keokuk Electric Company, except \$250,000 preferred stock. These Companies do the entire gas, electric railway, lighting and power business Keokuk, Iowa, the entire electric lighting and power business in Fort Madison, Iowa, and Dallas City, Illinois, and the entire electric railway and electric lighting business in Hamilton and Warsaw, Illinois, and operate an interurban electric railway between Keokuk, Hamilton and Warsaw.

Capital—\$750,000 6 per cent Cumulative Preferred Stock; 7,500 shares, no par common stock.

Earnings for the 12 months ended September 30, 1922, compared with the preceding 12 months follow:

12 Months Ending September 10—	1922	1921
Gross earnings	\$538,622	\$513,992
Operating expenses and taxes.....	393,054	385,804
Net earnings	\$145,538	\$128,187
Interest and amortization charges.....	43,823	42,712
Balance (For reserves, replacements and divs.).....	\$101,714	\$ 85,475

‡\$54,681.35 of these earnings are from Keokuk Electric Co., and are subject to 6 per cent dividend for current year on \$250,000 preferred stock of Keokuk Electric Co.

Houghton County Electric Light Company

This Company does the entire electric lighting business and a portion of the electric power business in Houghton and Keweenaw counties, Michigan, including the cities and towns of Houghton, Hancock, Laurium, Red Jacket, Lake Linden, Hubbell, South Range and Dollar Bay, and the mining locations of Atlantic, Isle Royale, Quincy, Osceola, Wolverine, Alouez, Ahmeek and Mohawk.

Capital—\$300,000 6 per cent non-cumulative Preferred Stock and \$1,000,000 Common, all outstanding. Dividends are being paid on the Cumulative only.

Funded Debt—\$1,000,000 First Mortgage 25-year 5 per cent Gold Bonds, due July 1, 1927, of which \$361,000 are deposited as collateral for secured Coupon Notes; balance outstanding. \$140,400 three-year 7 per cent Secured Convertible Gold Coupon Notes, due April 1, 1923, outstanding.

Following are comparative earnings for the 12 months ended September, 1922:

12 Months Ending September 30—	1922	1921
Gross earnings	\$548,161	\$585,831
Operating expenses and taxes.....	397,163	509,530
Net earnings	\$150,997	\$ 76,301
Interest and amortization charges.....	57,059	64,775
Balance (For reserves, replacements and divs.).....	\$ 93,938	\$ 11,526

Keokuk Electric Company

This Company does the entire electric railway, electric lighting, power and gas business in Keokuk, Iowa, the entire electric railway and electric lighting business in Hamilton and Warsaw, Illinois, and operates an interurban electric railway between Keokuk, Hamilton and Warsaw.

Capital—\$250,000 6 per cent Cumulative Preferred Stock and \$650,000 Common Stock. Dividends are being paid on Preferred only.

Funded Debt—\$388,000 First and Refunding, Five-Year 6 per cent Gold Bonds, due January 15, 1923.

Earnings statement for the twelve months ended September 30 follows:

12 Months Ending September 30—	1922	1921
Gross earnings	\$382,551	\$369,782
Operating expenses and taxes	284,134	286,847
Net earnings	\$ 98,417	\$ 82,935
Interest and amortization charges	43,735	41,642
Balance (For reserves, replacements and divs.)...	\$ 54,681	\$ 41,293

Sierra Pacific Electric Company

This Company owns the capital stock of the companies which do the entire electric lighting and power business in the cities and towns of Reno, Sparks, Virginia City, Carson City, and Silver City, Nevada, and furnish power in the surrounding mining districts of Western Nevada. These companies also do the entire gas business in Reno, Sparks and Carson City, and supply water for domestic purposes in Reno and Sparks.

Capital—\$3,500,000 6 per cent Cumulative Preferred stock, redeemable at 115. \$8,000,000 Common. Dividends paid on Preferred only.

Funded Debt—\$400,000 Three-Year 7 per cent Gold Coupon Notes, due February 1, 1922.

Earnings for 12 months ended September 30, 1922, and 1921, follows:

12 Months Ending September 30—	1922	1921
Gross earnings	\$888,383	\$853,461
Operating expenses and taxes	484,398	479,860
Net earnings	\$403,985	\$373,600
Interest charges	69,978	75,106
Balance (For reserves, replacements and divs.)...	\$334,006	\$298,494

Consolidated Statement of Financial Condition Sept. 30, 1922

ASSETS	LIABILITIES
Property, plant, etc....\$14,201,770	Common stock.....\$ 8,000,000
Materials and supplies... 59,825	Preferred stock..... 3,500,000
Advance payments..... 9,449	Bonds:
Notes receivable..... 1	Nevada Power, Light
Accounts receivable..... 109,568	& Water Co..... 300,000
‡Sinking fund investm'ts 285,625	Reno Power, Light &
Suspense	Water Co..... 450,000
Cash	Notes payable..... 500,000
	Accounts payable..... 46,814
	Accounts not yet due... 94,237
	Suspense
	Operating reserves..... 77,766
	Replacement reserve.... 625,348
	Reserves and surplus.... 1,196,282
\$14,809,755	\$14,809,755

‡Includes \$101,000 bonds of Nevada Power, Light & Water Co., held in sinking fund, uncanceled; \$107,000 bonds of Reno Power, Light & Water Co., held in sinking fund, uncanceled; \$58,700 bonds of U. S. Government "Liberty Loan."

NORTHERN IOWA GAS & ELECTRIC COMPANY

NORTHERN Iowa Gas & Electric Company operates in eleven counties in the northern part of Iowa. It serves seventeen cities and towns, including Humboldt, Eagle Grove, Clarion, Forest City, Emmetsburg, Sioux Rapids and Spirit Lake, at retail, and supplies 22 other communities at wholesale. Total population of the communities served is 40,000. Electric consumers, 10,200. Gas consumers, 650. The section in which this company operates is one of the most substantial in the rich agricultural state of Iowa.

The company's generating stations include a hydro-electric plant on the Des Moines River at Humboldt, a modern steam turbine plant at Eagle Grove, and two smaller plants not yet connected. A second hydro-electric plant is now under construction on the Des Moines River a short distance above Humboldt. Gas is supplied only in Eagle Grove.

The earnings of the company for the year ended October 31, 1922, are as follows:

Gross earnings—electric and gas.....	\$441,373.93
Total operating expenses	288,894.44
Net earnings	\$152,479.49
Interest—1st mortgage bonds.....	61,168.50
Balance	91,310.99
Interest—8% secured notes.....	14,051.33
Balance	77,259.66

PACIFIC GAS & ELECTRIC CO.

INCORPORATED in California, October 10, 1905. Owns in fee all property formerly owned by California Gas & Electric Corp., California Central Gas & Electric Co., Fresno Gas & Electric Co., Vallejo Gas Co., San Francisco Gas & Electric Co., Mutual Electric Light Co., Metropolitan Light & Power Co., Suburban Light & Power Co., Livermore Water Light & Power Co., West Sacramento Electric Co., Sacramento Street Ry., Oro Electric Corp., Mount Shasta Power Co., Durham Light & Power Co., Northern California Power Co. In January, 1920, the Sierra & San Francisco Power Co. was leased.

Capital—Common stock authorized, \$80,000,000; outstanding, \$34,684,100; first preferred 6 per cent cumulative stock authorized, \$79,000,000; outstanding \$34,684,100. In August, 1922, authority was given to issue \$5,000,000 additional 6 per cent first preferred stock to finance additions.

Dividends—On the first preferred 1½ per cent has been paid from November, 1914, to date. Dividends on the original issue of 6 per cent preferred, which has all been converted into first preferred, were paid in full. On the common stock, 50 per cent in stock was distributed in November, 1911; 1¼ per cent cash paid quarterly from April 15, 1912, to April 15, 1913, and passed in July, 1913. 3 per cent in common stock was distributed both on July 15, 1915, and December 15, 1915. 1¼ per cent cash dividend resumed on March 31, 1916, and paid quarterly until October 15, 1917; in January, 1918, dividend was passed, resumed April 21, 1919, at 1¼ per cent quarterly and paid regularly to date. An extra 2 per cent common stock dividend was paid January 16, 1922.

Funded Debt—\$35,822,000 General and Refunding 5 per cent Bonds, due 1942; \$20,000,000 (non-callable) First and Refunding 20-year 6 per cent Gold Bonds, series "B." California Gas and Electric Corp. \$18,186,000 Unified and Refunding 5 per cent Bonds, due November, 1937; \$10,720,000 First and Refunding (mortgage closed) 7 per cent Gold Bonds, series "A," due December, 1940; \$10,000,000 5-year 7 per cent Convertible Notes, due May 1, 1925. Bonds of constituent companies outstanding total \$30,046,200.

Following is a tabulation indicating the growth of company's business since 1914:

	Gross Operating Revenue	Sales of Electricity K. W. H.	Sales of Gas Cubic Feet	Number of Consumers Dec. 31	Number of Stockholders Dec. 31
1914..	\$16,912,688	452,004,000	7,648,252,000	378,705	* 2,898
1915..	18,530,301	494,091,000	8,325,619,000	403,545	7,080
1916..	18,615,493	521,553,000	8,174,225,000	421,794	7,614
1917..	19,813,381	537,144,000	8,537,925,000	450,657	8,141
1918..	22,592,516	628,923,000	9,255,961,000	477,012	8,241
1919..	25,938,372	658,449,000	9,792,341,000	520,619	8,513
1920..	34,481,960	1,042,266,000	10,644,650,000	569,476	14,020
1921..	36,939,474	1,021,521,000	11,483,551,000	599,113	18,204
1922 †	37,898,150	1,062,493,000	11,953,387,000	622,312	21,791
Gain in 7 yr.					
8 mo. \$20,985,462	610,489,000	4,805,135,000	243,607	18,893	
Increase.	124.0%	135.0%	56.2%	64.3%	651.9%
*As of June 3, 1914.	†12 months to August 31.				

Consolidated income statement for twelve months ended August 31, 1922, compared with twelve months ended December 31, 1921,—follows:

	Aug. 31, 1922	Dec. 31, 1921
INCOME ACCOUNT		
Twelve Months ended—		
Gross Revenue (including miscellaneous income)	\$38,422,310	\$37,509,706
Operating Expenses, Maintenance, Taxes (including Federal taxes) and Reserves.....	28,888,363	24,279,084
Net Income	\$14,533,947	\$13,230,622
Bond Interest and Discount.....	5,432,174	5,192,314
Balance	\$ 9,101,772	\$ 8,038,308
Reserve for Renewals and Replacements.....	3,410,920	3,069,078
Surplus available for Dividends.....	\$ 5,690,852	\$ 4,969,230
Dividends on Preferred Stock (6 per cent)...	2,484,847	2,132,283
Balance	\$ 3,206,005	\$ 2,836,947
Dividends on Common Stock (5 per cent)...	1,722,387	1,700,882
Balance (Unappropriated Surplus)	\$ 1,483,617	\$ 1,136,065

Following is the balance sheet as of August 31, 1922:

ASSETS	
Plants and Properties.....	\$195,642,305.12
Discount and Expense on Capital Stock.....	7,808,415.52
Trustees of Sinking Funds (Uninvested Funds).....	179,504.35
Current Assets:	
Cash	\$ 5,145,008.12
Other	10,086,133.64
Deferred Charges:	
Discount and Expense on Funded Debt in Process of amortization	\$6,236,486.23
Unexpired Taxes, etc.	884,970.05
	7,121,456.28
	\$225,982,823.03

LIABILITIES

Common Stock Outstanding	\$ 34,684,034.00
Preferred Stock Outstanding	46,902,910.00
Stock of Subsidiary Companies owned by public.....	20,604.94
Funded Debt in hands of public.....	112,132,200.00
Current Liabilities	7,097,966.47
Reserve for Renewals and Replacements.....	\$12,572,961.94
Other Reserves	3,998,527.81
Surplus Unappropriated	8,573,618.37
	\$225,982,823.03

Officers.—W. E. Creed, President; John A. Britton, First Vice-President and General Manager; A. F. Hockenbeamer, Second Vice-President and Treasurer; D. H. Foote, Secretary and Assistant Treasurer; LeRoy Moore, Assistant Treasurer; Chas. L. Barrett, Assistant Secretary.

Board of Directors.—Frank B. Anderson, H. E. Bothin, John A. Britton, W. E. Creed, W. H. Crocker, Frank G. Drum, John S. Drum, F. T. Elsey, D. H. Foote, Wm. G. Henshaw, A. F. Hockenbeamer, Norman B. Livermore, John D. McKee, John A. McCandless, C. O. G. Miller.

PEOPLES GAS LIGHT & COKE CO.

THE Peoples Gas Light & Coke Co. which does the entire gas business of Chicago was incorporated by special perpetual charter in Illinois in 1885. In 1897, the legislature passed an act permitting consolidation of the gas companies then existing in Chicago. Many of the companies have since been acquired and the company has leased the properties of the Ogden and Universal Gas Companies. It also owns a controlling interest in the Indiana Natural Gas & Oil Co., whose securities it has guaranteed in exchange for the supply of natural gas.

Capital.—Authorized capital stock is \$50,000,000 of which \$38,500,000 was issued December 31, 1921. When held by the residents of Illinois, the stock is exempt from personal property taxes.

Dividends:—1895, 2½ per cent; 1896, 1½ per cent; \$10.71 a share paid August 2, 1897; 6 per cent per annum November 25, 1897, to November 25, 1905; 5 per cent per annum February 26, 1906, to November 26, 1906; 6 per cent per annum February 25, 1907, to February 25, 1909; 7 per cent per annum May, 1909, to August, 1913; 8 per cent per annum November 25, 1913, to February 25, 1916, inclusive; 6 per cent per annum May 25, 1916, to February 24, 1917; 1 per cent each May 25 and August 25, 1917. The company then discontinued payment of dividends until January 3, 1922, when a quarterly dividend was paid at the rate of 5 per cent per annum.

Funded Debt:—\$1,712,000 general and refunded mortgage 5's dated December 1, 1913, due December 1, 1963, interest payable June and December 1; \$20,554,000 50-year refunding 5's due 1947, interest payable March and September 1, under a closed mortgage \$40,000,000 issue, and \$23,911,000 underlying prior lien bonds of the People Gas Light & Coke Co., Chicago Gas Light & Coke Co., Consumers Gas Co. and Mutual Fuel Gas Co. The company has also guaranteed the principal and interest of the following bonds: Ogden Gas Co., \$6,000,000 5 per cent, due May 1, 1945; Indiana Natural Gas and Oil Co., \$6,000,000 5 per cent, due May 1, 1936; Chicago By-Products Coke Co., \$13,000,000 7 per cent to be retired by series beginning February 1, 1924.

President's Statement.—At the annual meeting last spring President Samuel Insull in his report said: While the gross income shows an increase over that of the year 1920, it is not because of an increase in sales, but is due to the increased rates in effect during the past year. Owing to the general depression in all lines of business, the volume of gas sold was 8.33 per cent less in the year 1921 than it was in the year 1920.

The Board is pleased to be able to report that the affairs of the company are now in such satisfactory condition that it was warranted in paying a quarterly dividend at the rate of 5 per cent per annum to stockholders of record on January 3, 1922. While a general business depression still exists, your Board feels that the company has now surmounted its chief troubles, and hopes that it will be able, in the future to maintain its past policy of paying quarterly dividends.

The Koppers Company, of Pittsburgh, has completed

the construction of the coal gas plant and the water gas plant for Chicago By-Products Coke Company according to its contract, with the exception of some minor details. The construction of the water gas plant was substantially completed April 15, 1921. It was not practicable to begin the operation of the water gas plant until the completion of the coal gas plant. Owing to labor and other difficulties the construction of the coal gas plant was not sufficiently completed to permit of its operation until October 6, 1921, when the operation of both plants began and the first gas was received from the new plants on October 10, 1921. These plants will not be producing at full capacity until the coming Spring, but the results of the operations to date demonstrate that through these two plants the highest degree of efficiency and economy in the manufacture of gas in the present state of the art has been attained.

The original cost of the coal gas plant will be increased approximately one million dollars by the erection of an additional battery of five ovens, a coke screening station, and other minor additions.

All payments by The Peoples Company under the contract with The Koppers Company are being charged to operating expenses. Since some portion of these payments represent capital expenditures, when such portion is ascertained a proper charge will, during the year 1922 and thereafter, be made to investment resulting in a corresponding credit to operations.

On September 13, 1921, the Illinois Commerce Commission issued a citation requiring the company to show cause why its gas rates should not be reduced. The City of Chicago appeared as a party to the proceeding, and a hearing was had, which terminated in a temporary order on January 12, 1922, reducing the rates for gas. The Commission found that there had been net additions to the company's property used and useful in the gas business amounting to \$2,645,000, since the entry of the order in the valuation case of December 21, 1920, thus making the total value of the company's property for rate making purposes \$87,645,000. The rates per month fixed by the temporary order were 60 cents for the first 400 cubic feet, \$1.00 for the next 9,600 cubic feet, 95 cents for the next 40,000 cubic feet, and 90 cents for all over 50,000 cubic feet. The Commission estimated that under these rates the company would receive a return equal to at least seven per cent per annum upon the value of the company's property.

The company has filed a petition for rehearing with the Commission, and in case the petition is denied an appeal will be taken to the State Courts for the purpose of securing a decision on the legal questions raised, the most important of which is as to the right of the company to recoup for the losses sustained under its temporary rates in the years 1918, 1919 and 1920.

While the reduction in the rates, under the circumstances, was severe, your Board is of the opinion that under present prices for production material and by the practice of strict economy, the return under the temporary rates will be sufficient to justify the continuance of the dividend policy above referred to, unless there should be a still greater shrinkage in business, which is not anticipated at this time.

Referring to the valuation case which was concluded December 21, 1920, the petition for rehearing filed with the Public Utilities Commission by the City of Chicago was denied and the City appealed from the order of the Commission to the Circuit Court of Sangamon County. Both the appeal of the company and that of the City in that case are now pending in that court. The company will prosecute its appeal to a speedy conclusion. It is deemed wise to continue the present accounting methods of the company pending this appeal.

The Indiana Natural Gas and Oil Company and its subsidiaries during the past year made net earnings which almost equaled the amount of the interest on the bonds of the Indiana Company. The Peoples Gas Light and Coke Company was not called on to make any payment for such bond in interest for 1921 under its guarantee. It is hoped

that the Indiana Company will soon again be fully on a self supporting basis.

The company is prosecuting a vigorous canvassing and advertising campaign for new industrial business and it is expected that with the re-establishment of a tertiary rate the use of industrial gas will be materially increased.

The Employees Representation Plan was put into effect between the company and a portion of its employees in March, 1921. Under this plan employees are given a voice in the settlement of all questions which may properly arise between employer and employee. The plan is working very satisfactorily.

The employees through the Employees Representation Plan expressed the desire to have the form of the Christmas remembrance changed to Life Insurance. Acting on this recommendation on December 24, 1921, each employee received a life insurance policy for one year in an amount depending on length of service.

The company has 6,699 stockholders; 3,589 are residents of the State of Illinois, and of these 2,895 are residents of the City of Chicago.

The comparative income statement for the years ended December 31, follows:

	1921	1920	1919
Gross income	\$32,920,011	\$31,236,335	\$24,543,798
Less:			
Operative expense (without depreciation)	21,488,548	26,081,384	20,253,355
Depreciation, other charges and deduction	4,586,916	2,409,878	1,859,085
Bond interest	2,360,538	2,364,321	2,366,150
Net income to surplus	4,484,009	380,752	65,000
Surplus January 1	10,718,084	10,790,883	11,047,599
Less: Net debit during year	393,971	453,551	256,716
Total surplus December 31	14,808,122	10,718,084	10,790,883

ASSETS

The balance sheet for 1921 and 1920 follows:

	1921	1920
Investment	\$100,648,540	\$ 98,907,932
Sinking funds	12,009	70,786
Deferred charges	6,165,747	6,694,496
Reserve funds	1,590,853	1,450,941
Current assets	7,380,461	7,999,707
	\$115,797,610	\$115,173,862

	1921	1920
Capital stock issued	\$ 38,500,000	\$ 38,500,000
Underlying prior lien bonds	23,911,000	24,020,000
Refunding mortgage bonds 1897	20,554,000	20,554,000
General and refunding bonds 1913	1,712,000	1,712,000
Deferred credits	14,075	14,873
Depreciation and other reserves	11,792,000	10,742,987
Loans and notes payable to controlled companies		975,000
Current liabilities	4,506,412	7,936,918
Surplus	14,808,123	10,718,084
	\$115,797,610	\$115,173,862

LIABILITIES

Directors.—Samuel Insull, James A. Patten, J. J. Mitchell, Stanley Field, John Williamson.

Officers.—President, Samuel Insull; Vice-President, Charles A. Munroe; Secretary, T. V. Purcell; Treasurer, George F. Mitchell; Comptroller, William A. Sauer; Auditor, Walter I. Coble; Assistant Secretary, Robert Blair, Assistant Treasurer, A. L. Tossell; Assistant Treasurer, William R. Weldon.

PUBLIC SERVICE COMPANY OF NORTHERN ILLINOIS

THIS company supplies electricity and gas, and to a lesser extent water and heat, to incorporated cities and villages and farming communities in fifteen counties in Northeastern Illinois.

History.—Organized in 1911, the company is a consolidation of the North Shore Electric Company, Illinois Valley Gas and Electric Company, Economy Light and Power Company, Chicago Suburban Light and Power Company, and the Kankakee Gas and Electric Company. In 1913 the Northwestern Gas Light and Coke Company and the Pontiac Light and Water Company were acquired. The company later acquired the Toulon Light and Power Company, and the Stark County Light and Power Company. More recently it has purchased the Northwestern Light and Power Company, which operates a central-station electricity-supply system in Mt. Prospect.

Territory Served.—Present territory served is over 5,800 square miles in extent, and the population served is well over the half million mark. The area supplied surrounds the city of Chicago, extending on the north to the Wisconsin state line and on the east to the Indiana state line. Sweeping in a westerly and southerly direction, it goes as far as the northwestern corner of Peoria County.

Included in this prosperous stretch of country are the communities in the fine suburban residential district between Chicago and the Wisconsin line, known as the "North Shore," embracing such centers as Evanston, Lake Forest, Highland Park and Waukegan. It also includes, to the west of Chicago, the manufacturing and residential towns of Oak Park, Cicero, River Forest and LaGrange; also, on the south, the manufacturing and commercial towns of Blue Island, Harvey and Chicago Heights, with their growing population and large industrial interests. The company also serves such cities as Joliet, Kankakee, Ottawa, Pontiac and Streator. It supplies electricity to 150 cities and villages and gas to 55. Furthermore, its territory includes the rich agricultural and dairying regions of Northeastern Illinois.

The company is particularly fortunate in the industrial and domestic opportunities its diversified territory offers for electric power and gas for heating. As Chicago grows (and who can doubt its continued growth) its industrial and population overflow will continue to build up the territory of the Public Service Company of Northern Illinois. In addition, industrial areas in the territory more remote from Chicago exhibit satisfactory growth on their own account. Nearly 700 miles of electric transmission lines and 900 miles of gas distribution mains form a part of the system.

Business Steadily Increasing.—In 1913 the gross revenues of the company were a little over \$6,000,000; eight years later they had more than doubled, being \$12,213,316 in 1921. Operating revenues for 1921 were \$1,149,152 greater than in 1920. During the year 1921 there was a substantial increase in the number of customers served. The following table shows the number of customers served of various classes on the dates given:

Class of Service—	Number of Customers			
	May 1, 1922	Dec. 31, 1921	Dec. 31, 1920	Dec. 31, 1919
Electricity	122,069	118,304	106,305	96,783
Gas	75,061	74,056	71,164	68,339
Water	5,775	5,735	6,018	6,064
Heat	1,123	1,127	1,122	1,297

During the year 1921 the company contracted for additional electrical business to the amount of 27,000 kilowatts of connected load. This indicates that the increase in operating revenues from electrical business was larger than the increase in the number of electrical customers would imply.

Physical Properties and New Waukegan Generating Station.—The company has sixteen electric generating stations, mostly steam driven but a few operated by water-power. The most important are those at Blue Island, Joliet and the present generating station at Waukegan. There are twenty-eight electric substations, seven gas manufacturing stations (the most important being at Niles, Cicero and Blue Island) and five heating stations.

Construction on a large and modern electric generating station on the shore of Lake Michigan at the north end of Waukegan is now under way on a tract of eighty-eight acres of land. The new plant will have an initial rating of 40,000 kilowatts, the first unit, to be installed, having a rating of 20,000 kilowatts. The completed plant will have an ultimate rating of probably 200,000 kilowatts or about 270,000 horsepower. This great generating plant will be connected with the system of the Illinois Northern Utilities Company on the west and with that of the Commonwealth Edison Company on the south. It is planned to make a distinctly modern and economical station that will be one of the great centers of electric power generation in the great super-power network covering the northern portion of the Mississippi Valley.

Financial Operations.—On March 1, 1921, the company paid off 6 per cent debentures to the amount of \$914,500

which matured on that date. A year later it paid off, at maturity, \$1,000,000 in 6 per cent debentures, while on May 25, 1922, it was able to redeem \$2,000,000 of its 7½ per cent convertible gold debentures issued during the year 1921.

Capital.—Authorized, \$10,000,000 6 per cent Cum. Pfd. and \$15,000,000 Common. Outstanding, \$9,450,400 Pfd. and \$12,063,500 Common. Pfd. is redeemable at 120. Stocks are exempt from personal property tax when held by residents of Illinois.

At a special meeting held May 12, 1922, authority was given by the stockholders for increase of the capital stock of the company by 50,000 shares of no-par common stock to be on a parity in all respects with the common stock of the company having a par value of \$100 a share.

Dividends.—Pfd.: 6 per cent per annum, fully paid to date. Common: 7 per cent per annum; initial payment on this basis, Nov. 1, 1916, to date; 6 per cent per annum, Nov. 1, 1915, to Aug. 1, 1916, inclusive; 5 per cent per annum, Nov. 1, 1913, to Aug. 1, 1915; 4 per cent per annum, Feb. 1, 1912, to Aug. 1, 1913.

Funded Debt

(The company pays the Federal normal income tax, except noted otherwise.)

\$18,926,000 1st and Refunding 5s, due Oct. 1, 1956. Redeemable Oct. 1, 1921, and thereafter, at 110 and interest on 60 days' notice. Additional bonds are issuable to retire underlying liens, including those on properties hereafter acquired, or from 75 per cent of cost of acquisitions. Depreciation reserves, beginning Dec. 31, 1917, and annually thereafter, 2 per cent of all bonds outstanding for previous six months which are not issued to refund underlying bonds protected by sinking fund or depreciation reserve provisions.

\$7,000,000, 5½ per cent First Lien and Refunding Mortgage Bonds. Series A, dated June 1, 1922 due 1962. Redeemable at \$110 and interest.

\$1,000,000 8 per cent Collateral Notes, Series A, dated Sept. 1, 1920; due Sept. 1, 1930.

\$1,750,000 6 per cent Collateral Gold Notes, Series D, dated Feb. 1, 1920, due Feb. 1, 1923.

\$2,000,000 7½ per cent Convertible Gold Debentures, due March 1, 1936.

Bonds of Constituent Companies

\$1,747,000 Northwestern Gas Light & Coke Co. first mortgage 5s, dated Dec. 1, 1898; due 1928. Redeemable at 105 and interest. Authorized \$2,000,000.

\$3,365,000 Cicero Gas Co. refunding 5s, dated 1902; due July 1, 1932. Guaranteed by Northwestern Gas Light & Coke Co. Authorized, \$5,000,000; balance cannot be sold while any Northwestern Gas Light & Coke Co. 5 per cent notes are standing.

\$1,676,500 North Shore Electric 1st and refunding 5s due 1940.

\$1,343,000 Economy Light & Power Co., first mortgage 5s, due 1956.

\$197,200 Kankakee Gas & Electric Co., first and refunding 5s, due 1930. Redeemable at 107½ and interest.

\$117,500 Citizens Gas Co. of Kankakee first mortgage 5s, due 1932. Redeemable at 105 and interest.

\$70,000 Pontiac Light & Water Co., first mortgage 5s, due July 1, 1927.

Following is the comparative income statement:

CALENDAR YEARS

	1921	1920
Operating revenues	\$12,213,316	\$11,415,087
Operating expenses	7,930,827	7,633,997
Net operating revenue	4,282,489	3,781,090
Other charges, including taxes	718,620	466,662
Net operating income	3,563,869	3,314,428
Other income	466,151	234,853
Gross income	4,030,020	3,549,281
Deductions	429,875	272,110
Interest on funded debt	2,020,609	1,911,394
Available for dividends	1,579,536	1,365,776
Dividends on preferred	518,817	464,770
Dividends on common	785,456	781,139
Balance carried to surplus	275,263	119,867

*Includes \$430,660 depreciation.

Following is the condensed balance sheet:

BALANCE SHEET

ASSETS		1921	1920
Total investment		\$60,884,580	\$57,884,307
Total current assets		5,084,075	5,279,800
Prepaid insurance		24,742	25,605
Total unadj. debits		2,607,147	2,547,634
Total reserve funds		281,086	210,628
Total assets		\$68,881,630	\$65,947,974
LIABILITIES		1921	1920
Capital stock:			
Preferred		\$ 9,450,400	\$ 8,332,300
Common		12,063,500	12,063,500
Subscription to preferred stock		128,760	727,230
Funded debt		38,056,200	37,180,900
Total current liabilities		1,114,873	1,955,066
Interest accrued		583,282	552,714
Taxes accrued		143,324	51,663
Other unadj. credit		1,868,595	170,162
Depreciation reserve		3,771,722	3,473,142
Surplus unappropriated		1,700,974	1,441,297
		\$68,881,630	\$65,947,974

Directors.—Frank J. Baker, Henry A. Blair, Walter S. Brewster, Louis A. Ferguson, William A. Fox, John F. Gilchrist, John H. Gulick, Martin J. Insull, Samuel Insull, Frank G. Logan, Charles A. Munroe, Edward P. Russell, Solomon A. Smith.

Officers.—Samuel Insull, President; Frank J. Baker, Vice-President; Charles A. Munroe, Vice-President; John H. Gulick, Vice-President; John F. Gilchrist, Assistant to the President; George R. Jones, Secretary and Treasurer; S. J. Palmer, Auditor; J. L. Hecht, Assistant to Vice-President; John G. Learned, Assistant to Vice-President; E. E. Brennehan, Assistant Secretary and Assistant Treasurer; J. M. Nelson, Assistant Secretary and Assistant Treasurer; H. W. Wyman, Assistant Auditor.

Transfer Agent.—Self, 72 West Adams Street, Chicago.

Registrar.—Central Trust Company of Illinois, Chicago.

General Offices.—72 West Adams Street, Chicago.

Annual Meeting.—Last Monday in February.

SAN JOAQUIN LIGHT & POWER COMPANY

THE San Joaquin Light & Power Corporation was incorporated under the laws of California in July, 1910, as a consolidation of several public service companies which had been in successful operation in various sections of the San Joaquin Valley from as early as 1896. The Corporation does a general lighting and power business throughout the territory in which it operates; distributes gas in Bakersfield, Kern, Merced and Selma; operates the street railway system in Bakersfield and Kern; and furnishes domestic water in Selma and Madera.

Since the organization of this Corporation the previously existing property has been inter-connected and added to so that the present property constitutes a unified system, covering the seven principal counties of the San Joaquin Valley, viz., Mariposa, Merced, Madera, Fresno, Tulare, Kings and Kern. The district extends from north of Merced to the Midway Oil Fields south of Bakersfield, and is approximately 200 miles in length by 80 miles in breadth. Included in the territory are some of the foremost inland cities and towns of California, including Merced, Madera, Fresno, Selma, Hanford, Bakersfield, Sanger, Dinuba and about fifty other smaller communities.

The Corporation owns and operates 10 hydro-electric plants. Five of these plants are located on the north fork of the San Joaquin River and have a combined capacity of 30,000 horsepower. Water to operate these plants is impounded in the Crane Valley Reservoir, which has a storage capacity of 50,000 acre feet. The new Kerckhoff Plant of 50,000 horse-power capacity located on the main San Joaquin River receives full benefit of the water stored in the Crane Valley Reservoir, the full flow of the main San Joaquin River and all storage thereon. The four other plants are located; one on the Thule River, of 6,700 horsepower; one on the Kern River, of 12,000 horse-power, and two on the Merced River with a combined capacity of 1,050 horse-power.

It has also in operation a modern steam plant at Bakersfield of 35,000 horse-power capacity, and a new steam plant

at Button Willow (completed June 10, 1921) of 17,000 horsepower capacity, and steam reserve plants in Fresno and Betteravia of 3,990 horse-power combined capacity.

There are 1,058 miles of high tension transmission lines; 2,750 miles of secondary lines, and 37 substations. Natural gas, which is purchased at a very low price, is used in generating power at the Bakersfield and Button Willow steam plants. The gas used is at an equivalent of 55c per barrel of oil, whereas the price of oil at the present time is \$1.35.

CAPITALIZATION

Divisional Closed Mortgage Bonds.....	\$ 2,439,000
First and Refunding Mortgage Bonds, outstanding.....	12,934,000
Unifying and Refunding Mortgage Bonds—	
Series "A" 7% Bonds.....	8,600,000
Series "B" 6% Bonds.....	3,500,000
Prior Preferred 7% Cumulative Stock.....	5,017,500
Preferred 6% Cumulative Stock.....	6,500,000
Common Stock.....	11,000,000

EARNINGS

	Gross Revenue	Maintenance, Operation, Etc.	Net Operating Revenue	Available for Interest and Depreciation
1912.....	\$1,363,643	\$ 537,700	\$ 825,943	\$ 842,211
1913.....	1,722,096	840,930	881,166	921,390
1914.....	1,821,070	713,737	1,107,333	1,123,007
1915.....	1,766,374	691,169	1,075,205	1,082,988
1916.....	1,806,772	734,385	1,072,387	1,086,773
1917.....	2,038,806	909,287	1,129,519	1,160,542
1918.....	2,614,740	1,492,434	1,122,305	1,147,039
1919.....	3,292,963	2,196,914	1,096,049	1,259,295
1920.....	4,340,905	2,100,983	2,239,922	2,371,815
1921.....	5,595,112	2,507,575	3,087,536	3,242,870
*1922.....	5,729,005	2,575,108	3,153,897	3,306,159

*12 months ended February 28, 1922.

STANDARD GAS & ELECTRIC COMPANY

AN interesting study of the year's trend of business in the Middle West, West and South for the year is presented in the figures of output of electrical energy for light and power in these sections. According to kilowatt-hour output figures of Standard Gas and Electric Company, one of the strong public utility organizations of the country and whose operated public utility properties serve 600 representative cities and towns in sixteen states—including important centers such as Minneapolis, St. Paul, Louisville, Pueblo, Mobile, Oklahoma City, Tacoma, Stockton and San Diego, the territory served having a total population of 2,300,000—1922 has seen a substantial improvement in general conditions.

An index of industrial and commercial progress in the territories served is the increase of 95,428,759 kilowatt-hours in the output of electric energy by the twelve operated companies for the first nine months of 1922, as compared with the same period of the previous year. A general slowing down in business was reflected in the decline in kilowatt-hour output in the first four months of the current year, but from April on the improvement was pronounced. Actual figures are available for only nine months ended with September, but the operated properties report continuance of the improvement in the last quarter, and it is estimated that the total for 1922 will exceed a billion kilowatt-hours. The following table shows the comparative trend for the first nine months:

Electrical Energy Output

Month—	Kilowatt-Hours—	
	1922	1921
January.....	86,199,951	74,522,839
February.....	76,980,094	66,750,708
March.....	82,602,867	73,373,668
April.....	77,038,387	72,924,262
May.....	83,598,224	72,078,289
June.....	84,988,986	70,878,549
July.....	86,210,250	77,662,134
August.....	92,604,114	79,934,726
September.....	92,778,002	79,441,941
Total.....	763,000,875	667,572,116

Annual output of electricity has increased from 291,366,636 kilowatt-hours in 1921 to the probable total of over a billion for 1922.

Business of Standard Gas and Electric Company's operated utilities is greatly diversified geographically and extremely varied. Besides being one of the greatest elements contributing to the strength and stability of the company, this geographical diversification and wide range of business of its operated utilities makes the combined figures of electrical energy output one of the best barometers or indicators of the general business trend in the territories served.

Standard Gas and Electric Company is a holding company, and its income is derived largely from dividends and interest received on securities of its operated companies owned. Increased business of the operated properties in 1921 resulted in a gain of more than 15 per cent in Standard's net earnings. In addition to its utility properties the company owns a controlling interest in Shaffer Oil and Refining Company, a complete, successful company producing, refining and distributing petroleum and its products. Approximately 84 per cent of the net earnings of Standard Gas and Electric Company's operated utility companies is derived from the sale of electric energy for light and power, while about 13 per cent is received from gas and about 3 per cent from miscellaneous other sources.

In the twelve months ended October 31, 1922, gross earnings of the operated utility properties amounted to \$26,726,524, an increase of \$1,961,040, or 5.6 per cent, and net earnings amounted to \$13,464,475, an increase of \$1,498,855, or 12.5 per cent over the previous twelve months. In the ten years ended with December 31, 1921, gross increased from \$10,352,006 to \$34,927,675, while net income rose from \$4,699,814 to \$12,347,605. The following table shows the comparative annual earnings of the operated companies for the last ten years:

Year ended December 31—	Gross	Net
1912.....	\$10,352,006*	\$ 4,699,814*
1913.....	12,926,287**	5,816,659**
1914.....	14,354,689	6,741,233
1915.....	15,539,281	7,585,602
1916.....	17,127,134	8,309,422
1917.....	19,341,587	8,623,325
1918.....	23,344,286	8,849,861
1919.....	27,153,137	9,980,446
1920.....	32,352,232	11,230,741
1921.....	34,927,675	12,347,605
1922 x.....	36,464,475	13,464,475

(*) Includes Minneapolis General Electric Company, 7 months, June 1 to December 31, 1912. (**) Includes Louisville Gas & Electric Company, 6 months, July 1 to December 31, 1913. (x) Twelve months ended October 31.

After all charges and preferred dividends Standard Gas and Electric Company had a surplus of \$1,080,980 for the year ended December 31, 1921, equal to more than 10 per cent on the common stock then outstanding. Earnings in 1921 and 1919 were in excess of twice the dividend requirements on the preferred shares, and in 1920 they were only slightly less than twice the amount of the preferred dividend. The balance after fixed charges increased from \$751,506 in 1913 to \$2,196,368 in 1921. Based on the excellent earnings of the operated properties during the first nine months of 1922, it is expected that the current year will be another highly profitable one—the most successful in Standard's history.

Water power developments form a considerable part of the power sources of Standard's operated utilities, in addition to large modern and economical steam turbine generating stations. New construction now under way will increase the generating capacity of the operating companies about 25 per cent to approximately 450,000 horsepower. This should benefit net earnings in both the increased volume of business that may be handled as well as through the economies of operation that may be effected.

A comparison of the rate of growth of the population demands for service. Population of the territory served in 1910 was 799,125. December 1, 1922, it was 2,300,000—an increase of 189 per cent. This increase includes the additional population served through the expansion of territory as well as the population served by companies acquired during the eleven-year period. The number of the company's customers increased from 266,548 to 542,000 in the eleven years.

Within the last seven years a development has taken place at Standard's operated utilities further promoting the good relations existing between the companies and the public. This is the customer-ownership movement, by which the companies enlist their customers in partnership by means of preferred stock interest. Remarkable results have been accomplished in this manner in establishing better relations in financing, and bringing the managements of the companies and their customers in closer touch with each other. The number of customer-shareholders now is in excess of 40,000.

Standard Gas and Electric Company has outstanding \$14,159,750 of 8 per cent cumulative preferred stock, par value \$50, and \$10,600,000 of common stock, also of \$50 par value. The board of directors has authorized the issuance of \$2,460,000 new 8 per cent cumulative preferred stock, \$50 par value, to take care of certain conversion privileges of its funded debt and to provide capital for the requirements of its growing business. Stockholders' rights to subscription will expire January 31. Total funded debt amounts to \$28,611,100, consisting of \$5,605,500 convertible 6 per cent sinking fund gold bonds, due December 1, 1926; \$15,000,000 twenty-year 6 per cent gold notes, due October 1, 1935; \$3,228,400 secured 7½ per cent sinking fund gold bonds, due September 1, 1941; \$2,704,700 convertible secured 7 per cent gold bonds, due March 1, 1937, and \$2,072,500 of 7 per cent gold notes, due November 1, 1941.

The preferred and common shares of the company are listed on the Chicago Stock Exchange. Standard Gas and Electric preferred has sold as high as 53½. The price has risen about \$16 a share in the last twenty months on steady improvement in the showing of the company's operated properties. The price now is close to par, which is \$50 a share. The yield on the preferred shares at the current market price is over 8 per cent. The next quarterly dividend of \$1 a share is payable on March 15 to stockholders of record February 28. Permanency of the 8 per cent dividend on Standard Gas and Electric preferred shares is indicated by the current increases in business of the operated companies.

Standard Gas and Electric Company's operated public utility properties are managed by the Byllesby Engineering and Management Corporation, whose organization has been identified with successful public utility operation for twenty years. The ability and progressiveness of the management is shown by the companies' earning records.

SOUTHERN CALIFORNIA EDISON

THE Southern California Edison Company owns or controls and operates properties for the generation, transmission and distribution of electric light and power. The system includes generating plants with a present total capacity of 376,700 H. P., of which 249,600 H. P. is hydro-electric, and operates in ten counties in Southern California, the territory served either directly or at wholesale having an area of over 55,000 square miles and a population of about 1,500,000. Among 312 cities and towns served are Los Angeles, Pasadena, Riverside, Long Beach, Santa Barbara, San Bernardino, Redlands and Porterville.

CAPITALIZATION

Stock—	Authorized	Outstanding
Original preferred (paying 7 per cent).....	\$ 4,000,000	\$ 4,000,000
Preferred (paying 7 per cent).....	36,000,000	4,229,100
Common (paying 8 per cent).....	60,000,000	42,251,172
Total stocks	\$100,000,000	\$50,480,272
Dividends have been uninterruptedly paid on the common stock since 1910.		
Bonds—	Authorized	Outstanding
General and refunding mortgage bonds.....	\$136,000,000	\$43,920,000
(Of the outstanding bonds, \$10,000,000 are the present issue of 5s and \$33,920,000 are 6s previously issued.)		
Underlying bonds outstanding with public.....		31,179,700
Total mortgage bonds.....		\$75,099,700
7 per cent gold debenture bonds.....		\$ 6,000,000

EARNINGS

(Year Ended August 31, 1922)	
Gross earnings	\$16,770,962.34
Operating expenses, including taxes, insurance and maintenance	6,880,431.30
Net earnings	\$ 9,890,531.04
Annual interest charge on \$75,099,700 mortgage bonds.....	4,134,055.00
Balance available for interest on debenture bonds, amortization, depreciation and dividends.....	\$ 5,756,476.04

NEVADA-CALIFORNIA ELECTRIC

THE Nevada-California Electric Corporation, through its several operating properties, serves the rich agricultural and industrial sections of southern and eastern California embraced in the counties of Imperial, Riverside, San Bernardino, Kern and Inyo, including such cities with their surrounding communities as Holton, Imperial, El Centro, Coachella, Banning, Redlands, San Jacinto, Hemet, Perris, Corona, San Bernardino, and Colton. In practically all of

this territory, the system operates without competition. At Colton, there is a physical connection with the system of the Southern California Edison Company for interchange of power. The source of power is largely hydro-electric, from generating plants located on the streams of the eastern slope of the Sierra Nevada range. These streams, due to uniform flow and the rugged topography of the country, afford ideal locations for power development at a minimum installation cost. The total generating capacity of the system is 77,630 horsepower, of which 66,130 horsepower, or over 85 per cent, is hydro-electric. All of the System's hydro-electric plants are located in California.

The transmission and distribution systems consist of approximately 1,364 miles of high-tension transmission lines, 240 miles of which consist of double-circuit, three-phase, steel-tower line designed to transmit power at 140,000 volts. In addition to the above, the company has 470 miles of distribution lines. All of the properties are constructed in accordance with the best engineering practice and are maintained in excellent physical condition.

CAPITALIZATION

	Outstanding
Divisional closed mortgage 6 per cent bonds.....	\$3,332,000
First lien 6 per cent bonds—Series "A".....	8,674,200
Series "B".....	2,600,000
Secured Gold notes.....	1,486,500
Unsecured notes maturing 1926.....	336,800
Preferred stock	7,087,300
Common stock	8,187,900

*Does not include (\$1,125,000 Series "A" and \$1,125,000 Series "B") first lien 6 per cent bonds deposited with the International Trust Company as security for the 8 per cent secured gold notes.

The following table shows earnings of the consolidated companies as reported and audited for the three years ended December 31, 1921, and also the earnings of consolidated companies for the twelve months ended August 31, 1921, as compared with the twelve months ended August 31, 1922, inter-company transactions eliminated, as applied to interest on bonds of The Nevada-California Electric Corporation and subsidiary companies outstanding in the hands of the public:

	12 Months Ended—		Calendar Years—	
	Aug. 31, 1922	Aug. 31, 1921	1921	1920
Total operating earnings.....	\$3,327,229	\$3,191,227	\$3,177,108	\$3,074,517
Operating and general expenses and taxes.....	1,622,484	1,491,348	1,514,244	1,435,590
Earnings from ops.....	\$1,704,745	\$1,699,878	\$1,662,863	\$1,638,927
Non-operating earnings and miscellaneous income ..	117,904	37,024	82,823	53,930
Earnings app. to int.....	\$1,822,649	\$1,736,902	\$1,745,686	\$1,692,857
Total Bond and secured note interest	890,505	812,816	846,102	739,727
Balance	\$ 932,144	\$ 924,086	\$ 899,584	\$ 953,130

SOUTHERN COUNTIES GAS COMPANY

THE territory served adjacent to the city of Los Angeles is one of the most rapidly growing sections in the United States. It is divided into three main units: 1. Santa Barbara, Ventura and vicinities; 2. Santa Monica, Sawtelle and vicinities; 3. Long Beach, San Pedro, Fullerton, Whittier, Pomona, Anaheim and vicinities. The population served is about 450,000. The area served is 128.6 square miles with 1398.03 miles of mains. The company is in a strong position and supplies this territory largely with cheap natural gas obtained from diversified and long-lived fields. At the same time it has established an annual reserve fund, which with nominal additional capital expenditure will provide artificial gas plants to supply the territory should necessity arise.

CAPITALIZATION

	Authorized	Outstanding
First mortgage 5½ per cent bonds (this issue).....	\$10,000,000	\$6,010,100
Collateral trust convertible 8 per cent bonds.....	1,000,000	910,500
Second mortgage 6 per cent bonds (\$200,000 redeemed)	900,000	700,000
Common stock	1,500,000	1,500,000
Preferred stock	1,250,000	1,004,500

INCOME STATEMENT

The following figures represent earnings for the 12 months' period ending December 31:

	1920	1921	(12 months end'g July 31, 1922)
Gross revenues	\$2,905,358	\$4,251,024	\$5,230,245
Operating expenses and taxes.....	2,285,851	3,483,707	4,002,030
Net income	\$ 619,507	\$ 767,317	\$1,228,215
First mortgage bond interest.....	263,604	*342,241	*403,395
Balance	355,903	425,076	824,820
Times earned	2.85	2.25	3.04

*Includes interest on collateral trust bonds.

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WESTERN UNITED CORPORATION

The Western United Corporation is an Illinois corporation formerly known as Illinois Commercial and Mining Company. It owns outright the property known as Rex Mines, being the property formerly owned by the New Rex Coal and Coke Company, in Logan County, West Virginia. It owns through majority stock ownership the control of Western United Gas and Electric Company and Coal Products Manufacturing Company. It also owns the entire capital stock of the Southern Illinois Gas Company, Mid Egypt Gas and Oil Company, Western United Gas Coal Company, Eclipse Pocahontas Coal Company and Black Wolf Coal and Coke Company.

CAPITALIZATION

CAPITAL STOCK		
	Authorized	Outstanding
Preferred stock, 7% cumulative.....	\$9,000,000	\$ 198,300
Preferred stock, 8% cumulative.....	1,000,000	1,000,000
Common stock	6,000,000	5,250,000
FUNDED DEBT		
6% mortgage gold notes due May 1, 1918 to 1925.....	\$ 400,000	\$ 150,000
Retired	250,000	.....
8% collateral gold notes due Aug. 1, 1926 (this issue)	432,000	432,000

Western United Gas and Electric Company serves gas without competition in sixty-three municipalities located in McHenry, Kane, DuPage, DeKalb, Kendall, Will and Cook Counties in Illinois, all within a radius of fifty miles of Chicago, including the cities of Aurora, Joliet, Elgin and Woodstock, also several important suburbs of Chicago. The Company also serves electric current in Aurora, Wheaton, Glen Ellyn, Warrenville, Montgomery, Oswego and North Aurora, and steam heating in Aurora. The total population served is approximately 240,000. The Company was incorporated in 1905, through the consolidation of several gas companies which had been theretofore in successful operation for many years. The gross earnings have consistently increased from \$679,874.26 for the fiscal year ended January 31, 1906, to \$2,787,673.21 for the fiscal year ended January 31, 1922.

Coal Products Manufacturing Company owns one of the most modern and complete coke oven plants in the country. The plant consists of fifty-three modern coke ovens each with a capacity sufficient to handle 13½ tons of coal every eighteen hours, and the daily capacity of the plant is over 5,000,000 cubic feet of gas and 650 tons of coke. The output of gas is sold to Western United Gas and Electric Company for distribution by the latter company, and the coke is marketed through the Western United Corporation. Tar and ammonium sulphate are other principal products of the plant manufactured and sold.

The property of the Rex Mines consists of 1,050 acres of high volatile coal of excellent quality for the manufacture of gas. It has been estimated by independent engineers that the amount of available coal is 7,500,000 tons. The Coal Products Manufacturing Company uses a minimum of 250,000 tons of coal per year from this property.

Eclipse Pocahontas Coal Company owns leaseholds in McDowell County, West Virginia, for 880 acres of coal, and it has been estimated by independent engineers that there are 3,581,000 tons of Pocahontas coal available. The Coal Products Manufacturing Company uses the entire output of coal from this time at the rate of 50,000 tons annually.

Black Wolf Coal and Coke Company owns leaseholds in McDowell County, West Virginia, for 800 acres of coal. Mines are being operated in each of two veins. It has been estimated by independent engineers that there are 3,500,000 tons of Pocahontas coal available. The Coal Products Manufacturing Company uses the entire output amounting to approximately 100,000 tons per year.

Western United Gas Coal Company owns the leasehold

of 240 acres of coal in Jackson County, Illinois, and it has been estimated by independent engineers that there are 960,000 tons of coal available. The entire output amounting to 115,000 tons annually is used by Southern Illinois Gas Company and Coal Products Manufacturing Company, with the exception of a small amount sold locally in Murphysboro, Illinois.

Mid Egypt Gas and Oil Company owns and operates natural gas wells in Jackson County, Illinois. The gas therefrom is sold to Southern Illinois Gas Company, and by it is mixed with blue gas manufactured at its plant in Murphysboro from coal from Western United Gas Coal Company. The mixed gas is sold to customers of said Southern Illinois Gas Company in the communities served by it.

The Southern Illinois Gas Company serves without competition gas in eleven municipalities located in Williamson, Jackson, Franklin and Perry Counties in Illinois, including Murphysboro, DuQuoin, Marion, Carbondale, Johnson City and West Frankfort. The Company also distributes electric current and water in Murphysboro. The population served approximates 70,000.

WESTERN UNITED GAS & ELECTRIC

This company was incorporated June, 1905, in Illinois, consolidating the Fox River Light, Heat and Power Company of Aurora and the Joliet Gas and Light Company, The LaGrange Gas Company and the Elgin-American Gas Company. The plant at Lockport, Illinois, was purchased in July, 1905. The company operates without competition in sixty-three cities and towns in the Fox river valley, all within the radius of forty-five miles of Chicago and serves a total population of 210,000. It furnishes gas throughout the entire district and electric current in Aurora, Wheaton, Glen Ellyn, Montgomery, Oswego and North Aurora and steam heating in Aurora.

INCOME ACCOUNT

Year ended January 31:	1922	1921	1920
Gross earnings	\$2,787,673	\$2,756,179	\$2,023,991
Operating expenses and taxes.....	2,049,585	2,060,846	1,285,933
Net income	\$ 738,088	\$ 695,332	\$ 738,058
Interest on bonded debt and debentures.....	374,142	364,106	360,902
Sur., over int. on bonds and debts.....	\$ 363,946	\$ 331,225	\$ 377,156

Capital—\$1,500,000 6 per cent Preferred; \$14,000 7 per cent Preferred, \$3,000,000 Common, all outstanding. Dividends: First Preferred, 6 per cent since organization; on Common, 6 per cent 1916 to date; 5 per cent 1915; 4 per cent 1914 and 1913; 3 per cent 1912; 2 per cent 1911.

Bonds—\$5,000,000 First Mortgage and Refunding 5's, dated February 1, 1905, due serially 1915 to 1950; outstanding, \$4,724,400. General Mortgage 5's, dated August 1, 1913, authorized, \$20,000,000, of which \$5,000,000 was reserved to refund First Mortgage Bonds. Due \$1,000,000 serially, August 1, 1914, to February 1, 1920; balance due February 1, 1950. Total issued, \$3,780,600, of which \$1,000,000 has been retired; \$864,100 in hands of investors; \$1,916,500 in the treasury or up for collateral. \$500,000 Gold Debentures, dated December 1, 1918; outstanding, \$350,000, due serially, December 1, 1922 to 1928. \$333,700 6 per cent Collateral Gold Notes, secured by deposit of General Mortgage Bonds. Due, \$213,700 February 1, 1923; \$120,000 August 1, 1927; \$897,900 7 per cent Collateral Gold Notes due, \$336,900 February 1, 1925; \$456,000 February 1, 1926, and \$105,000 August 1, 1926.

Directors—W. S. Beaupre, C. E. Colwell, K. Karl Lamb, I. C. Copley, E. S. Hobbs, T. N. Holden, C. B. Strohn, C. C. Smith, H. A. Brennecke, Aurora, Ill.; Fred Bennitt, Joliet, Ill.; M. W. Stroud, Philadelphia, Pa.

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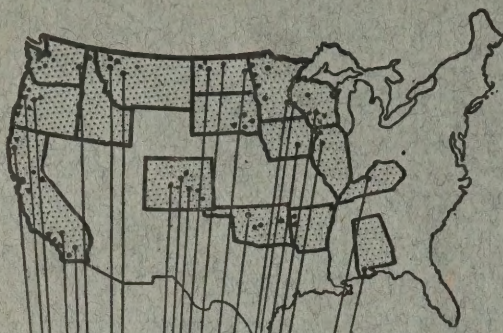
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